FISHERIES SCIENCE (B.S.)

Students pursuing a B.S. degree in Fisheries Science must have received a grade of C or better in each of the following four indicator courses to register for FISH or WLF upper-division courses and to graduate with a B.S.: BIOL 114, BIOL 213, FOR 221, and STAT 251.

To graduate, students must achieve a grade of C or better in each FISH or WLF upper-division course listed in the requirements for the B.S. degree.

Required course work includes the university requirements (see regulation J-3 (https://catalog.uidaho.edu/general-requirements-academic-procedures/j-general-requirements-baccalaureate-degrees/)) and:

Code	Title	Hours
Fisheries Core		
First and Second Years		
BIOL 114	Organisms and Environments	4
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
BIOL 213	Structure and Function Across the Tree of Life	4
CHEM 275	Carbon Compounds	3
or CHEM 277	Organic Chemistry I	
COMM 101	Fundamentals of Oral Communication	3
ENGL 102	Writing and Rhetoric II	3
FISH 102	The Fish and Wildlife Professions	1
WLF 220	Principles of Ecology	3
or FOR 221	Principles of Ecology	
FOR 235	Society and Natural Resources	3
FOR 375	Fundamentals of Geomatics	3
or GEOG 385	Foundations of GIS	
NR 101	Exploring Natural Resources	2
STAT 251	Statistical Methods	3
WLF 201	Fish and Wildlife Applications	2
WLF 370	Management and Communication of Scientific Data	3
Select one of the following:		4
CHEM 101 & 101L	Introduction to Chemistry and Introduction to Chemistry Laboratory	
CHEM 111 & 111L	General Chemistry I and General Chemistry I Laboratory	
Select one of the following:		4
GEOG 100 & 100L	Introduction to Planet Earth and Introduction to Planet Earth Lab	
GEOL 101 & 101L	Physical Geology and Physical Geology Lab	
PHYS 100 & 100L	Fundamentals of Physics and Fundamentals of Physics Lab	
PHYS 111 & 111L	General Physics I and General Physics I Lab	
SOIL 205 & SOIL 206	The Soil Ecosystem and The Soil Ecosystem Lab	
Third and Fourth Years		
FISH 314	Fish Ecology	3
FISH 315	Fish Ecology Field Techniques and Methods	2
FISH 415	Limnology	4
FISH 418	Fisheries Management	4
FISH 481	Ichthyology	4
FISH 495	Fisheries Seminar	1
WLF 448	Fish and Wildlife Population Ecology (Aquaculture and Hatchery Management)	4
Emphasis		
Select one of the following emphases:		25-35
Conservation Law Enforcement (p. 1)		
Science and Management (p. 2)		
Aquaculture and Hatchery Management (p. 2)		
Total Hours		**96-106**

A. Conservation Law Enforcement Emphasis

Code	Title	Hours
CRIM 101	Introduction to Criminology	3
PHIL 103	Introduction to Ethics	3
PSYC 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3
WLF 205	Wildlife Law Enforcement	2
Select one of the following:		3-4
MATH 143	College Algebra	
MATH 160	Survey of Calculus	
MATH 170	Calculus I	
Select one of the following:		3
BIOL 250	General Microbiology	
BIOL 310	Genetics	
GENE 314	General Genetics	
Internship:		2
FISH/WLF 398	Renewable Natural Resources Internship	
FISH 498	Internship	
Fisheries and Wildlife Science Electives (select a minimum of 6 credits):		6
FISH 411	Fish Physiology	
FISH 422	Concepts in Aquaculture	
FISH 424	Fish Health Management	
FISH 430	Riparian and River Ecology	
FISH 450	Ecology & Conservation of Freshwater Invertebrates	
FISH 451	Freshwater Invertebrate Field Methods	
WLF 314	Ecology of Terrestrial Vertebrates	
WLF 315	Techniques Laboratory	
WLF 411	Wildland Habitat Ecology and Assessment	
WLF 440	Conservation Biology	
Select one of the following:		3
COMM 233	Interpersonal Communication	
COMM 335	Intercultural Communication	
COMM 410	Conflict Management	
NRS 387	Environmental Communication Skills	
NRS 311	Public Involvement in Natural Resource Management	

NRS 364	Politics of the Environment	
NRS 383	Natural Resource and Ecosystem Service Economics	
NRS 462	Natural Resource Policy	
Select one of the following:		3
CRIM 301	Criminological Theory	
CRIM 339	Crime and the Media	
CRIM 334	Policing	
CRIM 415	Citizen's Police Academy	
CRIM 439	Inequalities in the Justice System	
PSYC 319	Environmental Psychology	
PSYC 320	Introduction to Social Psychology	
SOC 201	Introduction to Inequity and Justice	
SOC 230	Social Problems	
SOC 343	Power, Politics, and Society	
SOC 420	Sociology of Law	
Total Hours		**34-35**

Courses to total 120 credits for this degree

B. Science and Management Emphasis

Code	Title	Hours
BIOL 250	General Microbiology	3
BIOL 255	General Microbiology Lab	2
BIOL 310	Genetics	3
or GENE 314	General Genetics	
FISH 411	Fish Physiology	2
FISH 422	Concepts in Aquaculture	4
or FISH 424	Fish Health Management	
MATH 160	Survey of Calculus	4
or MATH 170	Calculus I	
Internship		2
FISH/WLF 398	Renewable Natural Resources Internship	
FISH 498	Internship	
Fisheries Science Electives (pick a minimum of 3 credits):		3
FISH 430	Riparian and River Ecology	
FISH 450	Ecology & Conservation of Freshwater Invertebrates	
FISH 451	Freshwater Invertebrate Field Methods	
FISH 497	Senior Thesis	
FISH 499	Directed Study	
Select one of the following electives:		2-3
COMM 410	Conflict Management	
FOR/NRS 484	Forest Policy and Administration	
NRS 386	Managing Complex Environmental Systems	
NRS 387	Environmental Communication Skills	
NRS 311	Public Involvement in Natural Resource Management	
NRS 364	Politics of the Environment	
NRS 462	Natural Resource Policy	
NRS 383	Natural Resource and Ecosystem Service Economics	
NRS 488	NEPA in Policy and Practice	
WLF 205	Wildlife Law Enforcement	
WLF 440	Conservation Biology	
Total Hours		**25-26**

Courses to total 120 credits for this degree

C. Aquaculture and Hatchery Management Emphasis

Code	Title	Hours
FISH 411	Fish Physiology	2
FISH 422	Concepts in Aquaculture	4
FISH 424	Fish Health Management	4
Select one of the following:		*3*
ECON 201	Principles of Macroeconomics	
ECON 202	Principles of Microeconomics	
ECON 272	Foundations of Economic Analysis	
NRS 383	Natural Resource and Ecosystem Service Economics	
Internship:		2
FISH/WLF 398	Renewable Natural Resources Internship	
FISH 498	Internship	
Science Electives (select a minimum of 6 credits):		6
BIOL 250	General Microbiology	
BIOL 310	Genetics	
or GENE 314	General Genetics	
AVS 305	Animal Nutrition	
FISH 497	Senior Thesis	
FISH 499	Directed Study (Business Skills or Policy Electives (select a minimum of 6 credits):)	
Business, Skills, or Policy Electives (select a minimum of 6 credits):		6
AGEC 278	Farm and Agribusiness Management	
ASM 107	Beginning Welding	
BUS 190	Integrated Business and Value Creation	
COMM 410	Conflict Management	
ENTR 414	Entrepreneurship	
MKTG 321	Marketing	
NRS 311	Public Involvement in Natural Resource Management	
NRS 386	Managing Complex Environmental Systems	
NRS 387	Environmental Communication Skills	
NRS 462	Natural Resource Policy	
NRS 488	NEPA in Policy and Practice	
Total Hours		**27**

Courses to total 120 credits for this degree

A. Conservation Law Enforcement Emphasis

Fall Term 1		Hours
BIOL 114	Organisms and Environments	4
COMM 101	Fundamentals of Oral Communication	3
ENGL 101	Writing and Rhetoric I	3
MATH 143	College Algebra	3

NR 101	Exploring Natural Resources	2
	Hours	**15**
Spring Term 1		
CRIM 101	Introduction to Criminology	3
ENGL 102	Writing and Rhetoric II	3
FISH 102	The Fish and Wildlife Professions	1
PSYC 101	Introduction to Psychology	3
(CHEM 101 AND CHEM 101L) OR (CHEM 111 AND CHEM 111L)		4
	Hours	**14**
Fall Term 2		
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
CHEM 275 or CHEM 277	Carbon Compounds or Organic Chemistry I	3
FOR 235	Society and Natural Resources	3
WLF 220 or FOR 221	Principles of Ecology or Principles of Ecology	3
WLF 201	Fish and Wildlife Applications	2
	Hours	**15**
Spring Term 2		
BIOL 213	Structure and Function Across the Tree of Life	4
STAT 251	Statistical Methods	3
WLF 205	Wildlife Law Enforcement	2
WLF 370	Management and Communication of Scientific Data	3
(GEOG 100 AND GEOG 100L) OR (GEOL 101 AND GEOL 101L) OR (PHYS 100 AND PHYS 100L) OR (PHYS 111 AND PHYS 111L) OR (SOIL 205 AND SOIL 206)		4
	Hours	**16**
Fall Term 3		
FISH 314	Fish Ecology	3
FISH 315	Fish Ecology Field Techniques and Methods	2
FISH 398 OR WLF 398 OR FISH 498		1
PHIL 103	Introduction to Ethics	3
SOC 101	Introduction to Sociology	3
BIOL 250 OR BIOL 310 OR GENE 314		3
	Hours	**15**
Spring Term 3		
FISH 481	Ichthyology	4
FISH 422 or FISH 424	Concepts in Aquaculture or Fish Health Management	4
FISH 398 OR WLF 398 OR FISH 498		1
International Course		3
Communication/Policy Course, Major Elective Course		3
	Hours	**15**
Fall Term 4		
FISH 398	Renewable Natural Resources Internship	1
FISH 415	Limnology	4
FISH 418	Fisheries Management	4
FOR 375 or GEOG 385	Fundamentals of Geomatics or Foundations of GIS	3
Criminology/Sociology/Psychology, Major Elective Course		3
	Hours	**15**
Spring Term 4		
FISH 495	Fisheries Seminar	1
WLF 448	Fish and Wildlife Population Ecology	4
FISH 424 or FISH 422	Fish Health Management or Concepts in Aquaculture	4
Humanistic and Artistic Ways of Knowing Course		3
American Diversity Course		3
	Hours	**15**
	Total Hours	**120**

The degree map is a guide for the timely completion of your curricular requirements. Your academic advisor or department may be contacted for assistance in interpreting this map. This map is not reflective of your academic history or transcript and it is not official notification of completion of degree or certificate requirements. Please contact the Registrar's Office regarding your official degree/certificate completion status.

B. Fisheries Science and Management Emphasis

Fall Term 1		**Hours**
BIOL 114	Organisms and Environments	4
COMM 101	Fundamentals of Oral Communication	3
ENGL 101	Writing and Rhetoric I	3
MATH 143	College Algebra	3
NR 101	Exploring Natural Resources	2
	Hours	**15**
Spring Term 1		
ENGL 102	Writing and Rhetoric II	3
FISH 102	The Fish and Wildlife Professions	1
MATH 160 or MATH 170	Survey of Calculus or Calculus I	4
(CHEM 101 AND CHEM 101L) OR (CHEM 111 OR CHEM 111L)		4
(GEOL 101 AND GEOL 101L) OR (PHYS 100 AND PHYS 100L) OR (PHYS 111 AND PHYS 111L) OR (SOIL 205 AND SOIL 206)		4
	Hours	**16**
Fall Term 2		
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
WLF 220/FOR 221	Principles of Ecology	3
FOR 235	Society and Natural Resources	3
WLF 201	Fish and Wildlife Applications	2
American Diversity Course		3
	Hours	**15**
Spring Term 2		
BIOL 213	Structure and Function Across the Tree of Life	4
CHEM 275	Carbon Compounds	3
STAT 251	Statistical Methods	3
WLF 370	Management and Communication of Scientific Data	3
Social and Behavioral Ways of Knowing Course		3
	Hours	**16**
Fall Term 3		
BIOL 250	General Microbiology	3
BIOL 255	General Microbiology Lab	2
FISH 314	Fish Ecology	3
FISH 315	Fish Ecology Field Techniques and Methods	2
BIOL 310 OR GENE 314		3
Humanistic and Artistic Ways of Knowing Course		3
	Hours	**16**
Spring Term 3		
FISH 481	Ichthyology	4
FISH 398 OR FISH 498 OR WLF 398		1
Fisheries Sciences Elective, Major Elective Course		4
International Course		3
Elective Course		1
	Hours	**13**
Fall Term 4		
FISH 415	Limnology	4
FISH 418	Fisheries Management	4
FISH 398	Renewable Natural Resources Internship	1
FOR 375 or GEOG 385	Fundamentals of Geomatics or Foundations of GIS	3

Humanistic and Artistic Ways of Knowing Course		3
	Hours	**15**
Spring Term 4		
FISH 411	Fish Physiology	2
FISH 495	Fisheries Seminar	1
WLF 448	Fish and Wildlife Population Ecology	4
FISH 422 or FISH 424	Concepts in Aquaculture or Fish Health Management	4
Policy/Communications, Major Elective Course		3
	Hours	**14**
	Total Hours	**120**

C. Aquaculture and Hatchery Management Emphasis

Fall Term 1		**Hours**
BIOL 114	Organisms and Environments	4
COMM 101	Fundamentals of Oral Communication	3
ENGL 101	Writing and Rhetoric I	3
MATH 143	College Algebra	3
NR 101	Exploring Natural Resources	2
	Hours	**15**
Spring Term 1		
ENGL 102	Writing and Rhetoric II	3
FISH 102	The Fish and Wildlife Professions	1
(CHEM 101 AND CHEM 101L) OR (CHEM 111 OR CHEM 111L)		4
(GEOG 100 AND GEOG 100L) OR (GEOL 101 AND GEOL 101L) OR (PHYS 100 AND PHYS 100L) OR (PHYS 111 AND PHYS 111L) OR (SOIL 205 AND SOIL 206)		4
Business Skills, Major Elective Course		3
	Hours	**15**
Fall Term 2		
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
WLF 220/FOR 221	Principles of Ecology	3
FOR 235	Society and Natural Resources	3
WLF 201	Fish and Wildlife Applications	2
American Diversity Course		3
	Hours	**15**
Spring Term 2		
BIOL 213	Structure and Function Across the Tree of Life	4
STAT 251	Statistical Methods	3
CHEM 275 or CHEM 277	Carbon Compounds or Organic Chemistry I	3
WLF 370	Management and Communication of Scientific Data	3
Science Elective, Major Elective Course		3
	Hours	**16**
Fall Term 3		
FISH 314	Fish Ecology	3
FISH 315	Fish Ecology Field Techniques and Methods	2
(ECON 201) OR (ECON 202) OR (ECON 272) OR (NRS 383)		3
(FISH 398) OR (WLF 398) OR (FISH 498)		1
Humanistic and Artistic Ways of Knowing Course		3
Elective Course		3
	Hours	**15**
Spring Term 3		
FISH 481	Ichthyology	4
FISH 422 or FISH 424	Concepts in Aquaculture or Fish Health Management	4
(FISH 398) OR (WLF 398) OR (FISH 498)		1
International Course		3
Science Elective, Major Elective Course		4
	Hours	**16**
Fall Term 4		
FISH 415	Limnology	4
FISH 418	Fisheries Management	4
FOR 375 or GEOG 385	Fundamentals of Geomatics or Foundations of GIS	3
Humanistic and Artistic Ways of Knowing Course		3
	Hours	**14**
Spring Term 4		
FISH 411	Fish Physiology	2
FISH 495	Fisheries Seminar	1
WLF 448	Fish and Wildlife Population Ecology	4
FISH 422 or FISH 424	Concepts in Aquaculture or Fish Health Management	4
Business Skills, Major Elective Course		3
	Hours	**14**
	Total Hours	**120**

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Shared Outcomes

- The student will be able to identify regional fish species and describe their biological characteristics and ecological requirements
- The student will be able to develop and test hypotheses and produce tabular and graphic summaries of quantitative data.
- The student will be able to effectively use diverse forms of communication (written and oral) to convey information to scientific audiences.
- The student will be able to explain and discuss diverse points of view about natural resource issues.
- The student will be able to work effectively in team settings.
- The student demonstrates an understanding of ethical professional behavior.

Science and Management Emphasis

- The student will be able to integrate biological, ecological and social information to make science-based recommendations for management.

Conservation Law Enforcement Emphasis

- Student can define basic legal terms and principles that apply to conservation law enforcement conservation.
- Student can demonstrate an understanding of the impact wildlife crime has on the resource.