

Aquatic Sciences Option
Coursework Requirements - 2007-2009 Catalog
31 Total Credits

Required Courses

A ECL 418
A ECL 486
A ECL 486L
MATH 160, 165, or 181
NREM 407

15 credits

Stream Ecology 3 cr
Aquatic Ecology 3 cr
Aquatic Ecology Laboratory 1 cr
Calculus Elective 4 cr
Watershed Management 4 cr

Restricted Electives

A ECL 321
A ECL 360
A ECL 366
A ECL 401
A ECL/ENT 425
A ECL 440
A ECL 441
A ECL 442
A ECL 515
A ECL 520
BIOL 313/GEN 320
BIOL 472
BIOL 474
BIOL 487
BIOL 488
CHEM 211
CHEM 211L
ENSCI 381
ENSCI 402
ENT 370
FOR 453
GEOL 101*
GEOL 108*
NREM 385
NREM 460
NREM 532
NREM 535/A ECL 535I
STAT 401
STAT 402
TSM 324
TSM 424

A minimum of 16 credits*

Fish Biology 3 cr
Natural History of Aquatic Organisms 1 cr
Natural History of Iowa Vertebrates 3 cr
Introductory Aquatic Animal Health and Medicine 1 cr
Aquatic Insects 3 cr
Fishery Management 3 cr
Fisheries Techniques 3 cr
Aquaculture 3 cr
Ecology of Freshwater Invertebrates 3 cr
Fisheries Science 3 cr
Principles of Genetics 3 cr
Community Ecology 3 cr
Plant Ecology 3 cr
Aquatic and Wetland Microbial Ecology 3 cr
Identification of Aquatic Organisms 1 cr
Quantitative and Environmental Analysis 2 cr
Quantitative and Environmental Analysis Laboratory 2 cr
Environmental Systems 3 cr
Watershed Hydrology and Surficial Processes 4 cr
Insect Biology 3 cr
Forest Resource Policy and Administration 3 cr
Environmental Geology: Earth in Crisis 3 cr
Introduction to Oceanography 3 cr
Natural Resource Policy 3 cr
Controversies in Natural Resource Management 3 cr
Human Dimensions of Natural Resource Management 3 cr
Restoration Ecology 3 cr
Statistical Methods for Research Workers 4 cr
Statistical Design and the Analysis of Experiments 3 cr
Soil and Water Conservation Management 3 cr
Impacts of Agriculture on Water Quality 2 cr

*Only one of GEOL 101 and 108 may be used to meet this option requirement.

Suggested Sequence of Courses

Aquatic Sciences Option*

Freshman Year

BIOL 211	Principles of Biology	3	BIOL 212	Principles of Biology	3
BIOL 211L	Prin. of Biology Lab.	1	BIOL 212L	Prin. of Biology Lab.	1
NREM 110	Orientation in NREM	R	NREM 120	Intro. Renew. Resources	3
	Ethics/Humanities/Social Science Elective	3	ENGL 150	Critical Thinking & Comm	3
MATH 140	College Algebra**	3	MATH 142	Trig. & Analytic Geom.**	3
CHEM 163	General Chemistry	4	CHEM 164	General Chemistry	3
CHEM 163L	General Chemistry Lab.	<u>1</u>	LIB 160	Library Instruction	<u>.5</u>
		<u>15</u>			<u>16.5</u>

Sophomore Year

A ECL 365	Vertebrate Biology	4	Chem 231	Elem. Organic Chem.	3
NREM 211	Careers in Nat. Res.	1	Chem 231L	Lab. Organic Chem.	1
A ECL 312	Ecology	4	Stat 101/104	Statistics	3-4
MATH	Calculus Elective	4	Sp Cm 212	Fund. of Public Speaking	3
ENGL 250	W/O/V/E Communications	<u>3</u>	Free Elective		3
		<u>16</u>	Ethics/Humanities/Social Science Elective		<u>3</u>
					<u>16-17</u>

Junior Year***

Phys 106	Physics	4	A Ecl 418	Stream Ecology	3
A ECL 486	Aquatic Ecology	3		Communications Elective	3
A ECL 486L	Aquatic Ecology Lab	1		Restricted Elective	3
	Ethics/Humanities/Social Science Elective	6		Ethics/Humanities/Social Science Elective	3
	Restricted Elective	<u>3</u>		Free Elective	<u>3</u>
		<u>17</u>			<u>15</u>

Senior Year***

Restricted Electives	7	NREM 407	Watershed Management	4
Communications Elective	3		Restricted Elective	3
Free Elective(s)	<u>6</u>		Free Elective(s)	<u>10</u>
	<u>16</u>			<u>17</u>

* To complete degree program in 4 years students must maintain an average of 16 credits per semester.

** Initial math course is determined on the basis of high school math and placement test scores. A non-credit math course (Math 10) may be required at additional costs.

*** In scheduling coursework, students should pay particular attention to courses with limited offerings (e.g., offered only on alternate years) and to course sequences (i.e., where a course serves as a prerequisite for another course).