

**Fisheries Option**  
**Coursework Requirements - 2009-2011 Catalog**  
**34 Total Credits**

**Required Courses**

A ECL 321	Fish Biology	3 cr
A ECL 440	Fishery Management	3 cr
A ECL 441	Fisheries Techniques	3 cr
A ECL 486	Aquatic Ecology	3 cr
A ECL 486L	Aquatic Ecology Laboratory	1 cr
MATH 160, 165, or 181	Calculus Elective	4 cr

**17 credits**

**Restricted Electives**

A ECL 401	Introductory Aquatic Animal Health and Medicine	1 cr
A ECL 418	Stream Ecology	3 cr
A ECL/ENT 425	Aquatic Insects	3 cr
A ECL 442	Aquaculture	3 cr
A ECL 515	Ecology of Freshwater Invertebrates	3 cr
A ECL 520	Fisheries Science	3 cr
A ECL 535I	Restoration Ecology	4 cr
BIOL 313/GEN 320	Principles of Genetics	3 cr
BIOL 381	Environmental Systems	4 cr
BIOL 472	Community Ecology	3 cr
BIOL 474	Plant Ecology	3 cr
BIOL 487	Aquatic and Wetland Microbial Ecology	3 cr
ENSCI 402	Watershed Hydrology and Surficial Processes	4 cr
ENT 370	Insect Biology	3 cr
FOR 453	Forest Resource Policy and Administration	3 cr
GEOL 101**	Environmental Geology: Earth in Crisis	3 cr
GEOL 108**	Introduction to Oceanography	3 cr
NREM 385	Natural Resource Policy	3 cr
NREM 407	Watershed Management	4 cr
NREM 460	Controversies in Natural Resource Management	3 cr
NREM 532	Human Dimensions of Natural Resource Management	3 cr
STAT 401	Statistical Methods for Research Workers	4 cr
TSM 324	Soil and Water Conservation Management	3 cr
TSM 424	Impacts of Agriculture on Water Quality	2 cr

**A minimum of 17 credits\***

\*Students should consult with their academic adviser about American Fisheries Society certification. They require six semester credits of human dimensions courses. These courses must deal with social aspects of natural resource science and management. They include courses such as human dimensions of natural resources and courses in policy, planning, administration, law, ethics, public relations, leadership, conflict resolution, natural resource economics, and others related to natural resource management. Introductory social science courses such as sociology and psychology will not qualify.

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

## Suggested Sequence of Courses

### Fisheries 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	Stat 101/104	Statistics	3-4
CHEM 163L	General Chemistry Lab.	<u>1</u>	LIB 160	Library Instruction	<u>.5</u>
		<u>15</u>			<u>16.5-17.5</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	Sp Cm 212	Fund. of Public Speaking	3
MATH	Calculus Elective	4	Free Elective/restricted elective		6
ENGL 250	W/O/V/E Communications	<u>3</u>	Ethics/Humanities/Social Science Elective		<u>3</u>
		<u>16</u>			<u>16</u>

#### Junior Year\*\*\*

PHYS 106	Physics Common Exper.	4	A ECL 321	Fish Biology	3
A ECL 486	Aquatic Ecology	3	Communications Elective		3
A ECL 486L	Aquatic Ecology Lab	1	Restricted Elective		3
Restricted Elective		6	Ethics/Humanities/Social Science Elective		3
Ethics/Humanities/Social Science Elective		<u>3</u>	Free Elective		<u>3</u>
		<u>17</u>			<u>15</u>

#### Senior Year\*\*\*

A ECL 440	Fishery Management	3	Restricted Electives		7
A ECL 441	Fisheries Techniques	3	Communications Elective		3
Ethics/Humanities/Social Science Elective		3	Free Electives		<u>6</u>
Restricted Elective		3			<u>16</u>
Free Electives		<u>5</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).