

**Fisheries Option**  
**Coursework Requirements - 2007-2009 Catalog**  
**31 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 360        | Natural History of Aquatic Biota                | 1 cr |
| 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 |
| MKT 340          | Principles of Marketing                         | 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 14 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         | 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 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).