# BIOLOGY, B.S. - MARINE BIOLOGY OPTION

## Major in Biology, BS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CORE COURSES (C- or higher required)</strong></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>BIOL 211</td>
<td>Concepts of Zoology</td>
<td></td>
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<tr>
<td>BIOL 221</td>
<td>Concepts of Botany</td>
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</tr>
<tr>
<td>BIOL 343</td>
<td>Principles of Ecology &amp; Evolution</td>
<td></td>
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<tr>
<td>BIOL 362</td>
<td>Cell and Developmental Biology</td>
<td></td>
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<tr>
<td>BIOL 364</td>
<td>Foundations of Genetics &amp; Molecular Biology</td>
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</table>

**Option in Marine Biology** - See separate block

**Total Hours** 24

## Appendix 1. Foundations of Biology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>Foundations of Biology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total Hours** 24

## Concentration in Marine Biology

Students majoring in Marine Biology are encouraged to consider completing a minor in Oceanography and, in consultation with their advisor, to take further courses in mathematics.

### REQUIRED MARINE BIOLOGY COURSES

Required Marine Biology (4 credits) - Choose 1 of the following options 1-2: 4

- **Option 1. Marine Biology**
  - BIOL 291 | Marine Biology |

- **Option 2. Coastal Marine Biology and Problem Solving Marine Biol**
  - BIOL 290 | Coastal Marine Biology |
  - BIOL 292 | Problem Solving in Marine Biol |

- BIOL 295 | Marine Invertebrates |
- BIOL 375 | Biometry |
- BIOL 396 | Ichthyology |

- **Biological Oceanography - Choose 1 of the following:** 3
  - BIOL 495 | Biological Oceanography |
- ESCI 465 | Biological Oceanography |

- **Seminar in Marine Biology** 2
  - BIOL 472 | Seminar In Biology |

### ELECTIVES

- **undefined - Choose 5 hours from:** 5
  - Any 3-level BIOL course(s) |
  - Any 4-level BIOL course(s) |
- **Note:** This requirement may not be satisfied with BIOL 340 or BIOL 390. |
- **In consultation with your advisor, choose additional courses at the 300-level or higher and approved for Biology majors to bring total credits in major to the minimum 47.** |

### MARINE SCIENCE FIELD COURSES

- **undefined - Choose 2 classes totaling at least 6 hours from:** 6
  - BIOL 293 | Coastal Ornithology |
  - BIOL 294 | Coral Reef Ecology |
  - BIOL 295 | Marine Invertebrates |
  - BIOL 296 | Marine Ecology |
  - BIOL 392 | Marine Mammals |
  - BIOL 397 | Marine Botany |
  - Any course(s) with DWLOCATION = W |
  - At least 2 courses (6 credits) of a student’s biology courses (required marine biology or biology electives) must be taken at a marine field site. |

**Total Hours** 29

## Req Related for Biology, BS

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>CHEMISTRY AND EARTH SCIENCES</strong></td>
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<tr>
<td>A C- or higher in CHEM 111 and 112 is a pre-requisite for CHEM 235. A C- or higher in CHEM 231 is a pre-requisite for CHEM 232. Students interested in graduate or professional school should take CHEM 231 and 232.</td>
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<tr>
<td>CHEM 111</td>
<td>Introductory Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>ESCI 261</td>
<td>Introduction to Oceanography</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 231</td>
<td>Organic Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 232</td>
<td>Organic Chemistry 2</td>
<td></td>
</tr>
<tr>
<td>CHEM 375</td>
<td>Environmental Chemistry</td>
<td>3-4</td>
</tr>
<tr>
<td>ESCI 363</td>
<td>Chemical Oceanography</td>
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</table>

### MATHEMATICS FOR MARINE BIOLOGY

Calculus for Mgt, Calculus I or Honors Calculus - Choose 1 of the following: 4-5

- **Option 1. Organic Chemistry I and II**
  - CHEM 231 | Organic Chemistry 1 |
  - CHEM 232 | Organic Chemistry 2 |

- **Option 2. Short Course in Organic Chemistry**
  - CHEM 235 | Organic Chemistry |

- **Environmental Chem or Chem Oceanography - Choose 1 of the following:** 3-4
  - CHEM 375 | Environmental Chemistry |
  - ESCI 363 | Chemical Oceanography |

### PHYSICS

**undefined - Choose 1 of the following options 1-2:** 8-10

- **Option 1. Physics with Algebra**
  - PHYS 131 | Physics 1 with Algebra |
  - PHYS 132 | Physics 2 with Algebra |

- **Option 2. Physics with Calculus**
  - PHYS 231 | Physics 1 with Calculus |
  - PHYS 232 | Physics 2 with Calculus |

**Total Hours** 31-39