MARINE BIOLOGY AND COASTAL SCIENCES MAJOR (B.S.)

A minimum of 120 credits of coursework is required for the baccalaureate degree with a minimum 2.0 overall GPA, and a minimum 2.0 major GPA. However, more than 120 credits may be required depending upon the major field of study.

Program Requirements

Students must complete 42 credits of General Education requirements (http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/general-ed-ba-bs) and 3-9 credits of World Languages and Cultures Requirements (http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/world-languages-cultures-requirement).  

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AQUA 351</td>
<td>Aquatic Biological Processes</td>
<td>4</td>
</tr>
<tr>
<td>BIMS 220</td>
<td>Introduction to Marine Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 113</td>
<td>Principles of Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 213</td>
<td>Introduction to Ecology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 105</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 230</td>
<td>Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>EAES 322</td>
<td>Environmental Geochemistry</td>
<td>3</td>
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Select one of the following:  
- AQUA 495 Research in Aquatic and Coastal Sciences  
- BIMS 490 Field Methods in the Marine Sciences  
- BIOL 418 Biology Independent Research  
- EAES 494 Independent Study in Geoscience

**Major Electives**

Select three courses from the list (see below)  
- BIMS 490 Field Methods in the Marine Sciences  
- BIOL 256 Applied Environmental Microbiology  
- BIOL 380 Genetics  
- BIOL 460 Biological Oceanography  
- BIOL 461 Aquatic Ecology  
- BIOL 467 Biology of the Fishes  
- CHEM 231 Organic Chemistry II  
- CHEM 233 Experimental Organic Chemistry II  
- CHEM 310 Analytical Chemistry  
- EAES 210 Introduction to GIS and Remote Sensing  
- EAES 310 Geographic Information Systems (GIS)  
- EAES 311 Fundamentals of Remote Sensing of Environment  
- EAES 331 Geohydrology  
- EAES 340 Sedimentology  
- EAES 341 Principles of Soil Science  
- EAES 451 Coastal Marine Geology  
- EAES 456 Physical Oceanography

**Collateral Requirements**

*Chemistry Collateral*

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CHEM 120</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 121</td>
<td>General Chemistry II</td>
<td>4</td>
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<tr>
<td>CHEM 230</td>
<td>Organic Chemistry I</td>
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</tr>
<tr>
<td>CHEM 232</td>
<td>Experimental Organic Chemistry I</td>
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</table>

*Physics Collateral*

Select one of the following sequences:  
- PHYS 191 University Physics I  
- PHYS 192 University Physics II  
- PHYS 193 College Physics I  
- PHYS 194 College Physics II

*Mathematics Collateral*

Select one of the following sequences:  
- MATH 111 Applied Precalculus  
- MATH 116 and Calculus A  
- MATH 122 Calculus I  
- MATH 221 and Calculus II

**Statistics Collateral**

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>STAT 401</td>
<td>Applied Statistics for the Sciences</td>
<td>3</td>
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</table>