# EARTH AND ENVIRONMENTAL SCIENCE 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).

### Major Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAES 105</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 220</td>
<td>Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>EAES 240</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 302</td>
<td>Structural Geology</td>
<td>3</td>
</tr>
<tr>
<td>EAES 320</td>
<td>Igneous Metamorphic Petrology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 342</td>
<td>Invertebrate Paleobiology</td>
<td>4</td>
</tr>
<tr>
<td>EAES 441</td>
<td>Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>EAES 404</td>
<td>Field Geology</td>
<td>6</td>
</tr>
</tbody>
</table>

**Math Collateral**

Select one of the following sequences: 7-8 credits

- **Math Sequence A**
  - MATH 111 Applied Precalculus
  - MATH 116 Calculus A

- **Math Sequence B**
  - MATH 122 Calculus I
  - MATH 221 and Calculus II

**Physics Collateral**

Select one of the following sequences: 8 credits

- PHYS 191 University Physics I
- & PHYS 192 and University Physics II
- PHYS 193 College Physics I
- & PHYS 194 and College Physics II

### Major Electives

Select 11 credits from the list below: 11 credits

**Chemistry Collateral**

- CHEM 120 General Chemistry I
- CHEM 121 General Chemistry II

Total Credits: 67 credits

### Major Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAES 200</td>
<td>Geomorphology</td>
<td>3</td>
</tr>
<tr>
<td>EAES 201</td>
<td>Understanding Weather and Climate</td>
<td>4</td>
</tr>
<tr>
<td>EAES 204</td>
<td>Geology Field Trip</td>
<td>1</td>
</tr>
<tr>
<td>EAES 210</td>
<td>Introduction to GIS and Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>EAES 211</td>
<td>Aerial Photograph Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>EAES 212</td>
<td>Map Reading and Cartography</td>
<td>4</td>
</tr>
<tr>
<td>EAES 230</td>
<td>Hydrology</td>
<td>3</td>
</tr>
</tbody>
</table>

**EAES 250**  Introduction to Marine Sciences 4
**EAES 301**  Climatology 3
**EAES 310**  Geographic Information Systems (GIS) 3
**EAES 311**  Fundamentals of Remote Sensing of Environment 3
**EAES 321**  Economic Geology 3
**EAES 322**  Environmental Geochemistry 3
**EAES 330**  Fluvial Geography 3
**EAES 331**  Geohydrology 3
**EAES 332**  Hydroclimatology 3
**EAES 340**  Sedimentology 4
**EAES 341**  Principles of Soil Science 3
**EAES 350**  Oceanography 3
**EAES 361**  Environmental Policy 3
**EAES 403**  Meteorology 4
**EAES 443**  Geology of the Vertebrates 4
**EAES 451**  Coastal Marine Geology 4
**EAES 452**  Dynamic Beach Processes 2
**EAES 453**  Tidal Marsh Sedimentations 2
**EAES 454**  Human Impact on the Coastal Zone 4
**EAES 455**  Field Methods in Oceanography 2
**EAES 456**  Physical Oceanography 4
**EAES 459**  Independent Study in the Marine Sciences 1-4
**EAES 460**  Environmental Law 3
**EAES 470**  The Geology of New Jersey 3
**EAES 494**  Independent Study in Geoscience 1-4
**EAES 498**  Seminar in Geoscience 2
**EAES 499**  Sel Topics in Earth Environmental Studies: Glacial Deposits, Climate Archive Resource Potential 1-4
**PHMS 490**  Field Methods in the Marine Sciences 4
**PHYS 280**  Astronomy 4