Environmental Science and Chemistry, BS

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The Departments of Marine and Environmental Sciences and Chemistry provide education in basic environmental science and chemistry-related disciplines. The overall objective of this combined major is to provide the fundamental scientific background and practical training for students as they prepare for environmental and chemically related careers or advanced study in fields including the traditional specialties such as toxicology, pollution, bio-remediation, environmental protection, education, law, and other endeavors that may draw upon an understanding of the chemical basis of the environment and the changes that will likely result from global warming.

Key general objectives are the development of qualitative and quantitative problem-solving skills and effective communication skills. Specific learning objectives for this combined major include the development of conceptual understanding and problem-solving abilities in the fundamental dynamics between the environment and its chemistry, be it analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. Students will perform quantitative measurements; learn proper laboratory practices, including safety; develop proficiency with modern instruments and computers for data acquisition and analysis; and learn the relevance of chemistry within the context of the abiotic and biotic environments.

Most of our combined majors will participate in the cooperative education program and thereby gain invaluable professional experience to augment their classroom and laboratory work. Not only does that experience add immensely to the overall education received, it also has the potential to provide contacts and references for later employment or graduate school admissions. Students in this major may also undertake research projects for at least one semester under the supervision of a faculty member. Sufficient electives are available in the program either to take more advanced courses or research within the department or to add courses in an area of special interest.

**Program Requirements**

**Environmental Science Major Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENVR 1200 and ENVR 1201</td>
<td>Dynamic Earth and Lab for ENVR 1200</td>
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<tr>
<td>ENVR 1202 and ENVR 1203</td>
<td>History of Earth and Life and Interpreting Earth History</td>
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<td>ENVR 2310 and ENVR 2311</td>
<td>Earth Materials and Lab for ENVR 2310</td>
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**Chemistry Major Requirements**

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<td>CHEM 1214 and CHEM 1215</td>
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**Intermediate-Level Chemistry**

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<td>CHEM 2313 and CHEM 2314</td>
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<td>Quantum Chemistry and Spectroscopy and Lab for CHEM 3403</td>
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<td>CHEM 3431 and CHEM 3432</td>
<td>Physical Chemistry and Lab for CHEM 3431</td>
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**Advanced-Level Chemistry**

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<td>Instrumental Methods of Analysis and Instrumental Methods of Analysis Lab</td>
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**Environmental Science/Chemistry Integrative Requirement**

Choose two courses from the following:

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<td>ENVR 5190</td>
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Environmental Science and Chemistry, BS

Environmental Science/Chemistry Major Credit Requirement
Complete 94 semester hours in the major.

Program Requirement
128 total semester hours required.

Plan of Study
Five Years, Three Co-ops in Summer 2/Fall

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<th>Year 1</th>
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<th>Spring</th>
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Total Hours: 136