HONOURS BSC IN ENVIRONMENTAL GEOSCIENCE

Investigate Earth as a professional environmental geoscientist to understand environmental interactions between geology, biology and hydrology.

The Environmental Geoscience program integrates the Environmental Science and Geology programs in one stream that balances biology and chemistry-oriented courses with solid Earth-based courses. Environmental geoscience requires multidisciplinary study – students acquire a wide range of expertise to understand the environmental interactions between solid Earth, the biosphere, the atmosphere and the oceans.

The combination of analytical courses and frequent field trips gives students hands-on exposure to all aspects of environmental geoscience. The final year involves an independent research project or equivalent units (credits) in advanced environmental geoscience courses in the specialization.

Students who follow the suggested course sequence can meet professional accreditation requirements of the Association of Professional Geoscientists of Ontario and the Ordre des géologues du Québec.

This program is offered in English and in French.

Program Requirements

Co-operative education is available with this program.

The French immersion stream is available with this program.

Compulsory courses at the 1000 level

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1130</td>
<td>Introduction to Organismal Biology</td>
<td>3</td>
</tr>
<tr>
<td>CHM 1311</td>
<td>Principles of Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EVS 1101</td>
<td>Introduction to Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>GEO 1111</td>
<td>Introduction to Earth Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEO 1115</td>
<td>Introduction to Earth Materials</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1330</td>
<td>Calculus for the Life Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>MAT 1332</td>
<td>Calculus for the Life Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1121</td>
<td>Fundamentals of Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1122</td>
<td>Fundamentals of Physics II</td>
<td>3</td>
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Compulsory courses at the 2000 level

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>BIO 2129</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>GEG 2320</td>
<td>Introduction to Geomatics</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2020</td>
<td>Field Studies I</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2163</td>
<td>Introduction to Mineralogy</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2165</td>
<td>Stratigraphy and Sedimentation</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2166</td>
<td>Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2321</td>
<td>Structural Geology and Tectonics</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2334</td>
<td>Quaternary Geology and Climate Change</td>
<td>3</td>
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</table>

Compulsory courses at the 3000 level

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>EVS 3120</td>
<td>Environmental Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3163</td>
<td>Igneous Petrology</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3191</td>
<td>Applied Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3342</td>
<td>Introduction to Hydrogeology</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3382</td>
<td>Geochemistry</td>
<td>3</td>
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Compulsory courses at the 4000 level

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>EVS 4010</td>
<td>Field Course in Environmental Science</td>
<td>3</td>
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</table>

One option from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>GEO 4010</td>
<td>Honours Project</td>
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</table>

Option 1: Honours Project

Option 2: Honours Project Substitution

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 4077</td>
<td>Probability and Statistics for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>MAT 2379</td>
<td>Introduction to Biostatistics</td>
<td>3</td>
</tr>
</tbody>
</table>

9 optional course units in geology (GEO) or in Environmental Science (EVS) at the 3000 or 4000 level

12 elective course units from the Faculty of Arts, the Faculty of Education, the Faculty of Law, the Faculty of Social Sciences or the Telfer School of Management

18 elective course units

Total: 120 Units

Note(s)

A language course at the 1000 or 2000 level is strongly recommended.

This program can satisfy the academic requirements of the Association of Professional Geoscientists of Ontario. Check APGO’s website for current eligible courses which can be used for accreditation.

Suggested elective courses: GEO 3167, GEO 4301, GEO 4342, GEO 4382, GEG 3105, GEG 3312, GEG 3102, EVS 4904.