**MAJOR PROGRAM REQUIREMENTS**

**2021/2022**

**Undergraduate Chair:** Dr. Stephen Brown, BioSciences Rm. 3130, email: [stephen.brown@chem.queensu.ca](mailto:stephen.brown@chem.queensu.ca)

The program consists of three parts, totaling 72.0 units as described below and 48.0 elective units to total 120.0 units.

**Students are advised to complete at least 15 units from the core and integrative science and supporting courses outlined below in their first year.** Deferring 100-level courses to the last year is strongly discouraged.

<table>
<thead>
<tr>
<th>Core Science &amp; Social Science Courses: 30 units</th>
<th>Completed</th>
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<tr>
<td>3.0 units in BIOL 111 (Ecology and the Environment) or BIOL 103 (Intro. Biology of Organisms)</td>
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<tr>
<td>6.0 units from (GPHY 101 (Human Geography) and 102 (Earth System Science))</td>
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<tr>
<td>3.0 units in GEOL 104 (The Dynamic Earth) or GEOL 107 (History of Life)</td>
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<tr>
<td>6.0 units in ENSC 201 (Environmental Toxicology) and ENSC 301 (Environmental Assessment)</td>
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<tr>
<td>3.0 units in ENSC 103 (Environment and Sustainability)</td>
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<td>3.0 units in ENSC 390 (Sustainability)</td>
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<tr>
<td>6.0 units from ENSC 430 (Honours Projects in Env. Sustainability) or ENSC 501 or ENSC 502</td>
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<th>Option Courses: 30 units</th>
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<td>3.0 units in GEOL</td>
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**15.0 units from ENSC Integrative Science (with a minimum of 9.0 at 300 level or above)**
- BIOL 103 (Introductory Biology of Organisms)
- BIOL 200 (Diversity of Life)
- BIOL 212 (Scientific Methods in Biology)
- BIOL 335 (Limnology and Aquatic Ecology)
- ENSC 201 (Toxicology)
- ENSC 301 (Environmental Assessment)
- ENSC 307 (Marine Environmental Issues)
- ENSC 320 (Wildlife Issues in a Changing World)
- ENSC 407 (Global Water Issues)
- ENSC 425 (Ecotoxicology)
- ENSC 471 (Env. Analysis Methods)
- ENSC 480 (Special Topics in Env. Science)
- ENSC 481 (Special Topics in Env. Science II)
- GEOL 106 (Environmental Geology and Natural Hazards)
- GEOL 107 (History of Life)
- GEOL 200 (Oceanography)
- GPHY 207 (Principles of Biogeography)
- GPHY 209 (Principles of Hydroclimatology)
- GPHY 304 (Arctic and Periglacial Environments)
- GPHY 306 (Natural Env. Change)
- GPHY 310 (Landscape Ecology)
- GPHY 312 (Watershed Hydrology)
- GPHY 314 (Climatic Change)
- GPHY 317 (Soil, Environment & Society)
- GPHY 318 (Advanced Biogeography)
- GPHY 319 (Bioenergy & Biorefining)

**9.0 units from ENSC Interdisciplinary Social Science and Humanities:**
- CHEE 342 (Environmental Biotechnology)
- CLST 214 (Ancient Science)
- DEVS 220 (Intro to Aboriginal Studies)
- DEVS 221 (Topics in Aboriginal Studies)
- DEVS 250 (Global Environmental Transformations)
- ENSC 200 (Environmental History)
- ENSC 290 (Intro. To Ecological Economics)
- ENSC 301 (Environmental Assessment)
- ENSC 305 (Social Environments)
- ENSC 307 (Marine Environmental Issues)
- ENSC 310 (Environmental Policy)
- ENSC 315 (Global Food Security, Agriculture & Environment)
- ENSC 320 (Wildlife Issues)
- ENSC 321 (Environmental Justice)
- ENSC 407 (Global Water Issues)
- ENSC 420 (Gender & Environments)
- ENSC 482 (Special Topics in Environmental Studies)
- ENSC 483 (Special Topics in Environmental Studies II)
- GPHY 336 (Geography, Environment & Human Health)
- GPHY 339 (Medical Geography)
- PHIL 203 (Science & Society)
- PHIL 293 (Humans & the Natural World)
- PHIL 301 (Development Ethics)
- PHIL 493 (Ethics & the Environment)
- RELS 235 (Religion & Environment)

**3.0 units from ENSC Interdisciplinary Humanities:**
- CLST 214 (Ancient Science)
- DEVS 220 (Intro to Aboriginal Studies)
- DEVS 221 (Topics in Aboriginal Studies)
- PHIL 203 (Science & Society)
- PHIL 293 (Humans and the Natural World)
- PHIL 301 (Development Ethics)
- PHIL 493 (Ethics and the Environment)
- RELS 235 (Religion and Environment)

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<th>Supporting Courses: 12 units</th>
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<tr>
<td>6.0 units in CHEM 112 or (CHEM 113 and CHEM 114)</td>
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<td>6.0 units in MATH or STAT at the 100-level or above</td>
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