<table>
<thead>
<tr>
<th>Year</th>
<th>Core</th>
<th>Additional</th>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>3 Units from:</td>
<td>12 Units from Level 1 Course</td>
<td>6 units from Level 1 electives</td>
</tr>
<tr>
<td></td>
<td>Math 1A03</td>
<td>List:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math 1LS3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 Units:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biology 1A03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biology 1M03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 1C03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 1G03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>9 units from:</td>
<td>9 units from:</td>
<td>21 units:</td>
</tr>
<tr>
<td></td>
<td>Envir Sc 2B03</td>
<td>Biology 2A03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 2C03</td>
<td>Biology 2B03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 2E03</td>
<td>Biology 2C03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 2G13</td>
<td>Biology 2D03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 2Q03</td>
<td>Biology 2EE3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 2W03</td>
<td>Biology 2F03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 units from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 3MB3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stats 2B03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>3 units</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Envir Sc 4EA3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21 units Level III, IV from Course List 2:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>18 units from Level III, IV Biology*</td>
<td>6 units from Course List 1 or 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please note: No more than 48 units may be Level 1 courses

* Excludes Biology 3Q03 and 3QQ3

### Level 1 Course List

- ASTRON 1P03
- BIOPHYSICS 1E03
- CHEM 1A03
- CHEM 1A1A3
- COMPSCI 1C03
- COMPSCI 1M03
- COMPSCI 1X03
- MATH 1L3
- PHYSICS 1A03
- PHYSICS 1A1A3
- PHYSICS 1C03
- SCIENCE 1A03
- ENVIRSC 1E03
- ENVIRSC 1G03
- ENVIRSC 2B03
- ENVIRSC 2C03
- ENVIRSC 2E03
- ENVIRSC 2F03
- ENVIRSC 2G03
- ENVIRSC 2Q03
- ENVIRSC 2W03
- ENVIRSC 2X03
- ENVIRSC 3A03
- ENVIRSC 3B03
- ENVIRSC 3C03
- ENVIRSC 3E03
- ENVIRSC 3F03
- ENVIRSC 3G03
- ENVIRSC 3Q03
- ENVIRSC 3W03
- ENVIRSC 4A03
- ENVIRSC 4C03
- ENVIRSC 4D03
- ENVIRSC 4F03
- ENVIRSC 4G03
- ENVIRSC 4Q03
- ENVIRSC 4W03
- ENVIRSC 4X03
- ENVIRSC 5A03
- ENVIRSC 5B03
- ENVIRSC 5C03
- ENVIRSC 5D03
- ENVIRSC 5E03
- ENVIRSC 5F03
- ENVIRSC 5G03
- ENVIRSC 5Q03
- ENVIRSC 5W03
- ENVIRSC 5X03

**Course List 1**
- BIOCHEM 2E03
- BIOLOGY 2A03
- BIOLOGY 2B03
- BIOLOGY 2C03
- BIOLOGY 2E03
- CHEM 2A03
- CHEM 2B03
- CHEM 2C03
- CHEM 2D03
- CHEM 2E03
- CHEM 2F03

**Course List 2**
- BIOCHEM 2E03
- BIOLOGY 2A03
- BIOLOGY 2B03
- BIOLOGY 2C03
- BIOLOGY 2D03
- BIOLOGY 2E03
- CHEM 2A03
- CHEM 2B03
- CHEM 2C03
- CHEM 2D03
- CHEM 2E03
- CHEM 2F03

**Course List 2 (continued)**
- BIOCHEM 2E03
- BIOLOGY 2A03
- BIOLOGY 2B03
- BIOLOGY 2C03
- BIOLOGY 2D03
- BIOLOGY 2E03
- CHEM 2A03
- CHEM 2B03
- CHEM 2C03
- CHEM 2D03
- CHEM 2E03
- CHEM 2F03

**Course List 3**
- ENVIRSC 3A03
- ENVIRSC 3B03
- ENVIRSC 3C03
- ENVIRSC 3D03
- ENVIRSC 3E03
- ENVIRSC 3F03
- ENVIRSC 3G03
- ENVIRSC 3Q03
- ENVIRSC 3W03
- ENVIRSC 4A03
- ENVIRSC 4B03
- ENVIRSC 4C03
- ENVIRSC 4D03
- ENVIRSC 4E03
- ENVIRSC 4F03
- ENVIRSC 4G03
- ENVIRSC 4Q03
- ENVIRSC 4W03
- ENVIRSC 4X03
- ENVIRSC 5A03
- ENVIRSC 5B03
- ENVIRSC 5C03
- ENVIRSC 5D03
- ENVIRSC 5E03
- ENVIRSC 5F03
- ENVIRSC 5G03
- ENVIRSC 5Q03
- ENVIRSC 5W03
Honours Biology and Environmental Sciences is a flexible program that focuses on interdisciplinary studies among these two fields. Jointly offered by the Department of Biology and the School of Geography and Earth Sciences, this program enables students to select courses according to their interests; to develop broad knowledge, and understanding of the linkages between biological and environmental processes; and to apply these to questions of biological, biomedical, or environmental interests. This program prepares students for graduate studies, careers in industry or academic research laboratories.

ADMISSION NOTE

Students are strongly recommended to take CHEM 1A03 and 1AA3 in Level I.

Admission

Enrolment in this program is limited and possession of the published minimum requirements does not guarantee admission. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Grade Point Average of at least 5.0 including:

3 units from MATH 1A03, 1LS3
6 units BIOLOGY 1A03, 1W03 (or 1AA3) with an average of at least 6.0
3 units from ENVIR SC 1C03, 1G03 with a grade of at least C+

See front for other course requirements

Notes Applicable to All Honours Biology Programs

1. The Biology and Environmental Sciences program allows students to choose Biology and Environmental Science courses that reflect their own interests. Students are strongly encouraged to discuss their course selections with an academic advisor in the Department of Biology or the School of Geography and Earth Sciences.
2. Prerequisites for upper year courses must be checked carefully when selecting courses in Level II. Biochemistry and Organic Chemistry prerequisites exist in many upper year biology courses. Students are encouraged to take six units from CHEM 2E03, 2A03, 2O3, 2C3, 2D3.
3. Students interested in completing a thesis may take one of BIOLOGY 4C12 A/B, 4F06 A/B, or EARTHSC 4MT6 A/B in Level IV, subject to meeting the prerequisites. Students considering graduate studies are recommended to complete a thesis course.
4. Only one of BIOLOGY 4C12 A/B, 4F06 A/B, or EARTHSC 4MT6 A/B may be completed as part of the program requirements. Completion of EARTHSC 3RD3 in Level III is required preparation for EARTHSC 4MT6 A/B.

Notes Applicable to all Honours Earth and Environmental Sciences Programs

Earth and Environmental Sciences at McMaster encompass five major themes: Aqueous Environmental Geochemistry, Earth Sciences, Environmental Hydrology and Climate, Environmental Policy, GIS and Spatial Analysis. It should be noted that each thematic area has its own sequence of courses and prerequisites (See the Course Listings section in the Undergraduate Calendar). Students may elect to take some or all of the upper level courses from different areas. In addition, there is a set of courses encompassing research design, field work, internships, and the senior thesis or review paper.

AQUEOUS ENVIRONMENTAL GEOCHEMISTRY
Earth SC 2L03, 2Q03, 3CC3, 3L03, 3M03, 3O03, 4CC3, 4N03

EARTH SCIENCES
Earth SC 2E03, 2F03, 2K03, 2T03, 3E03, 3K03, 3SR3, 3Z03, 4G03, 4J03, 4P03, 4T03, 4V03

ENVIRONMENTAL HYDROLOGY AND CLIMATE
Earth SC 2B03, 2C03, 2W03, 3B03, 3CC3, 3N03, 3U03, 3W03, 4BB3, 4C03, 4CC3, 4W03, 4WB3

ENVIRONMENTAL POLICY
Earth SC 2E13, 4EA1; Envir SC 3EE3, 4H13; Geog 3EC3, 4ET3

GEOGRAPHIC INFORMATION SYSTEMS (G.I.S.) AND SPATIAL ANALYSIS
Earth SC 2G13, 3G13, 3SR3, 3GV3, 4GA3; Geog 4GS3, 4GT3

Students aiming to meet the academic requirements for professional registration of Geoscientists in Ontario can find additional information on these requirements on the website: http://www.science.mcmaster.ca/geo/undergraduate/programs/science.html. Students are encouraged to consult with the academic advisor in the School of Geography and Earth Sciences to ensure proper selection of courses for professional registration.