<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>12-15 units from:</td>
<td>6 units from Level I electives; 3 units if Chem 1R03 is taken as an elective</td>
</tr>
<tr>
<td></td>
<td>□ Math 1A03</td>
<td>□ Chem 1AA3</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Math 1LS3</td>
<td>□ Biology 1A03</td>
<td>□ Math 1M03</td>
</tr>
<tr>
<td></td>
<td>□ Biology 1M03</td>
<td>□ Math 1AA3</td>
<td>□ Math 1B03</td>
</tr>
<tr>
<td></td>
<td>□ Chem 1A03</td>
<td>□ Math 1B03</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Envir Sc 1C03</td>
<td>□ Math 1L3</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Envir Sc 1G03</td>
<td>□ Physics 1A03</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Physics 1A03</td>
<td>□ Physics 1A03</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Physics 1C03</td>
<td>□ Physics 1C03</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Physics 1C03</td>
<td>□ Science 1A03</td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Science 1A03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>18 units</td>
<td>3 units from Course List 1</td>
<td>9 units if not completed: Chem 1A03; Envir Sc 1A03, 1G03; Earth Sc 2M03, Math 1A03, 1B03, ILT3, Stats 2B03</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 2B03</td>
<td></td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 2B03</td>
<td></td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 2K03</td>
<td></td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 2Q03 or □ Earth Sc 2L03</td>
<td></td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 2T03</td>
<td></td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 2W03</td>
<td></td>
<td>□ Math 1L3</td>
</tr>
<tr>
<td>III</td>
<td>9 units</td>
<td>9 units from Course List 2</td>
<td>12 units</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 3PE3</td>
<td></td>
<td>□ Earth Sc 3PE3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 3RD3</td>
<td></td>
<td>□ Earth Sc 3RD3</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 3Z03</td>
<td></td>
<td>□ Earth Sc 3Z03</td>
</tr>
<tr>
<td>IV</td>
<td>18 units from Course List 2</td>
<td>0-3 units Physics 1A03 (1B03), 1C03 if not already completed</td>
<td>9-12 units</td>
</tr>
<tr>
<td></td>
<td>□ Earth Sc 4M13 or Earth Sc 4MT6</td>
<td></td>
<td>□ Earth Sc 4M13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Earth Sc 4M13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>□ Earth Sc 4M13</td>
</tr>
</tbody>
</table>

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

Course List 1
- EARTH SC 2C03
- EARTH SC 2B03
- EARTH SC 2Q03
- EARTH SC 2L03
- CHEM 2A03
- CHEM 2A03
- CHEM 2B03
- BIOLOGY 2D03 or 2H03
- STATS 2B03

Course List 2
- EARTH SC 2C03
- EARTH SC 2B03
- EARTH SC 2Q03
- EARTH SC 2L03
- BIOS 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- LIFE SCI 1B03

Course List 2 (continued)
- EARTH SC 3E03
- EARTH SC 3F03
- EARTH SC 3G03
- EARTH SC 3H03
- EARTH SC 3I03
- EARTH SC 3J03
- EARTH SC 3K03
- EARTH SC 3L03
- EARTH SC 3M03
- EARTH SC 3N03
- EARTH SC 3O03
- EARTH SC 3P03
- EARTH SC 3Q03
- EARTH SC 3R03
- EARTH SC 3S03
- EARTH SC 3T03
- BIOLOGY 2R03
- BIOLOGY 2S03
- BIOLOGY 2T03
- BIOLOGY 2U03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- CHEM 1A03
- LIFE SCI 1B03
- BIOLOG 4S03
- BIOLOG 4S03
- BIOLOG 4S03
- BIOLOG 4S03
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, 3C03, 4CC3, 4N03

EARTH SCIENCES
EARTH SC 2E03, 2F03, 2K03, 2T03, 3E03, 3K03, 3SR3, 3Z03, 4G03, 4J03, 4P03, 4T03, 4VV3

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

ENVIRONMENTAL POLICY
EARTH SC 2E03, 4EA3; ENVIR SC 3EE3, 4HH3; GEOG 3EC3, 4ET3

GEOGRAPHIC INFORMATION SYSTEMS (G.I.S) AND SPATIAL ANALYSIS
EARTH SC 2GIS, 3GIS, 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 those requirements on the website: http://www.science.mcmaster.ca/geoc/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.

ADMISSION NOTES
1. Both ENVIR SC 1C03 and 1G03 must be completed by the end of Level I and are recommended in Level I.
2. CHEM 1A03 must be completed by the end of Level I. Students who did not complete Grade 12 Chemistry U must complete CHEM 1R03 in Level I. Given CHEM 1R03 is considered elective, an additional three units from the Earth and Environmental Course List must be completed.
3. One of EARTH SC 2MB3, EARTH SC 3MB3, MATH 1A03, 1B03, 1LT3, STATS 2B03 must be completed by the end of Level II.
4. Students who did not complete Grade 12 Physics U must complete PHYSICS 1A03. While one of PHYSICS 1A03 (1B03) or 1C03 must be completed prior to graduation, completion by the end of Level II is strongly recommended.

ADMISSION
Completion of any Level I program with a Grade Point Average of at least 5.0 including:
6 units with a grade of at least C+ in two of ENVIR SC 1C03, 1G03 (See Admission Note 1 above.)

See front for complete set of course requirements

NOTE: Students who have satisfied all above admission criteria and have a Grade Point Average between 4.5 and 4.9 will be admitted to the program, on Program Probation. Students may be on Program Probation only once. Eligibility to continue in the program will require a Grade Point Average of at least 5.0 at the next academic review.

PROGRAM NOTES
1. All students are strongly encouraged to meet with the academic advisor in the School of Geography and Earth Sciences to discuss program requirements and course selections.
2. There are Level III prerequisites for many Level IV courses. The prerequisites should be considered when selecting your courses.
3. The field components of EARTH SC 2FE3 AND 3FE3 are normally taken outside of the normal term. Details are announced December (EARTH SC 2FE3) or March (EARTH SC 3FE3).
4. A Minor in Geography and Earth Sciences, Earth Sciences or Environmental Science is not permitted in the Honours Earth and Environmental Sciences program. However, Minors in Environmental Studies, Geographic Information Systems and Geography are permitted.
5. Students entering this program in September 2012 will have to complete PHYSICS 1B03 as a program requirement. While it must be completed prior to graduation, completion by the end of Level II is strongly recommended.
6. In order to meet the Compulsory Foundation Science and Geoscience requirements for the Professional Geoscientist Certification, completion of the following courses is required: CHEM 1A03, EARTH SC 2E03, 2K03, 3FE3, 3Z03, MATH 1A03 or 1LS3, and PHYSICS 1A03 (1B03) or 1C03. Additional requirements are posted on the website http://www.science.mcmaster.ca/geoc/undergraduate/index.html
7. Students who entered the program prior to September, 2015, may use ENVIR SC 1B03 as three units toward Course List 1.