B.Sc. Honours Program:
Major in Environmental Geoscience and Geomatics

Name: ___________________________________________  Student # _________________________

About the Program
Students in this degree program combine two exciting and dynamic fields of study; geoscience and geomatics. Geoscience is concerned with the natural and human-induced forces shaping the surface of our planet. Geomatics, the science involving spatial analysis using Geographic Information Systems (GIS) and satellite imagery, is a core component of the rapidly growing information sector worldwide. Graduates of this program will apply their expertise to environmental problems in agriculture, forestry, transportation, fisheries, mining, and environmental consulting.

Check-list [based on 2017-18 calendar]
Bring this list with you when you come for counselling and leave it with your counsellor in your semester of graduation. A list of counsellors is posted in the first floor corridor of the Hutt Building during registration period. At other times check with the secretary in Hutt 119

Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG*1350</td>
<td>0.50</td>
<td>Earth: Hazards and Global Change</td>
</tr>
<tr>
<td>BIOL*1070</td>
<td>0.50</td>
<td>Discovering Biodiversity</td>
</tr>
<tr>
<td>CHEM*1040</td>
<td>0.50</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>PHYS*1080</td>
<td>0.50</td>
<td>Physics for Life Science</td>
</tr>
<tr>
<td>MATH*1080</td>
<td>0.50</td>
<td>Elements of Calculus I</td>
</tr>
<tr>
<td>MATH*1200</td>
<td>0.50</td>
<td>Calculus I</td>
</tr>
</tbody>
</table>

Students who are lacking one 4U/grade 12 course in Biology, Chemistry or Physics must take the equivalent intro course in first semester. The required first-year science courses in that subject should be completed according to the revised schedule of studies available at http://www.bsc.uoguelph.ca/revisedss.shtml.

Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL*1090</td>
<td>0.50</td>
<td>Introduction to Molecular and Cellular Biology</td>
</tr>
<tr>
<td>CHEM*1050</td>
<td>0.50</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>GEOG*1300</td>
<td>0.50</td>
<td>Introduction to the Biophysical Environment</td>
</tr>
<tr>
<td>PHYS*1130</td>
<td>0.50</td>
<td>Physics with Applications</td>
</tr>
</tbody>
</table>

0.50 Arts or Social Science electives * (GEOG*1220 is recommended)

Semester 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG*2000</td>
<td>0.50</td>
<td>Geomorphology</td>
</tr>
<tr>
<td>GEOG*2420</td>
<td>0.50</td>
<td>The Earth from Space</td>
</tr>
<tr>
<td>GEOG*2480</td>
<td>0.50</td>
<td>Mapping and GIS</td>
</tr>
<tr>
<td>ENVS*2240</td>
<td>0.50</td>
<td>Fundamentals of Environmental Geology</td>
</tr>
</tbody>
</table>

0.50 Arts or Social Science electives
### Semester 4
- **GEOG*2110** [0.50] Climate and the Biophysical Environment
- **GEOG*2210** [0.50] Environment and Resources
- **STAT*2040** [0.50] Statistics I

One of:
- **CIS*1200** [0.50] Introduction to Computing
- **CIS*1500** [0.50] Introduction to Programming
- **MATH*1210** [0.50] Calculus II
- **MATH*2080** [0.50] Elements of Calculus II

0.50 approved Science electives

### Semester 5
- **GEOG*3000** [0.50] Fluvial Processes
- **GEOG*3110** [0.50] Biotic and Natural Resources

One of:
- **GEOG*3020** [0.50] Global Environmental Change
- **GEOG*3090** [0.50] Gender and Environment
- **GEOG*3210** [0.50] Management of the Biophysical Environment

1.00 electives, at least 0.50 from approved Science electives

### Semester 6
- **GEOG*3420** [0.50] Remote Sensing of the Environment
- **GEOG*3480** [0.50] GIS and Spatial Analysis
- **GEOG*3610** [0.50] Environmental Hydrology

1.00 electives, at least 0.50 from approved Science electives

### Semester 7
- **GEOG*4110** [1.00] Environmental Systems Analysis

1.50 electives, at least 1.00 from approved Science electives (**GEOG*4690** is recommended)

### Semester 8
- **GEOG*4150** [0.50] Catchment Processes
- **GEOG*4480** [1.00] Applied Geomatics

1.00 approved Science electives

### Credit Summary
- 4.50 First year Science credits
- 3.00 Approved Science electives
- 8.50 Required Science courses semesters 3–8
- 1.00 Arts and/or Social Science electives
- 1.00 Required Social Science courses semesters 3–8
- 2.00 Free electives

Of the total credits required, students are required to complete 16.00 credits in science of which 2.00 credits must be at the 4000 level and an additional 4.00 credits must be at the 3000 or 4000 level.

### Course Substitutions

- **Required course**
- **Course substituted**

- **Date**
- **Signature**

Date of entry to program: _______________ November 18, 2016