



## Adding Value to Your Environmental Team

Geomatics, the science of spatial analysis using Geographic Information Systems (GIS) and remotely sensed imagery, is a core component of the rapidly growing information sector worldwide. The Environmental Geomatics program at Guelph offers students the opportunity to study the processes and properties of the biophysical environment and provides them with a core foundation in the analytical techniques used for interpretation, analysis and presentation of geographical data. Students combine field research with image analysis and computer modeling to specialize in the spatial analysis of environmental systems and apply these techniques to examine human-environment interactions and address human impacts on the environment.

## University of Guelph Advantage

- The Environmental Geomatics co-op program combines formal classroom instruction with high-quality experience-based learning opportunities that take students into the field and into the community.
- Guelph is home to internationally acclaimed faculty who produce high quality research and are award-winning teachers.

Students do not begin their first work term until they have completed 2 years of study and have mastered the core competencies needed to be successful in their work terms. Students are available for up to four work terms (4 or 8 months) and employers can post, interview and hire throughout the semester. The Experience Guelph hiring tool makes hiring Guelph co-op students easy!

## Student Strengths

- Ability to analyze the earth as an integrated human-environment system by examining dynamic flows, interactions and exchanges at different spatial and temporal scales.
- Trained in collecting and analyzing geographical data and interpreting its significance within the context of human-environment relations.
- Skilled in the use of field equipment (e.g., streamflow gauging, landscape surveying, environmental monitoring).
- Experienced with communicating geographical concepts and data effectively using oral, written and visual forms.
- Ability to collaborate effectively as a team leader and member to pursue innovative solutions to environmental problems.

# Environmental Geomatics Course Sequencing

YEAR	FALL (SEPT-DEC)	WINTER (JAN-APRIL)	SUMMER (MAY-AUG)
<b>ONE</b>	<ul style="list-style-type: none"> <li>GENERAL CHEMISTRY I</li> <li>DISCOVERING BIODIVERSITY</li> <li>EARTH: HAZARDS AND GLOBAL CHANGE</li> <li>PHYSICS FOR LIFE SCIENCES</li> <li><b>ONE OF:</b> CALCULUS I <b>OR</b> ELEMENTS OF CALCULUS I</li> </ul>	<ul style="list-style-type: none"> <li>INTRODUCTION TO MOLECULAR AND CELLULAR BIOLOGY</li> <li>GENERAL CHEMISTRY II</li> <li>INTRODUCTION TO THE BIOPHYSICAL ENVIRONMENT</li> <li>PHYSICS FOR THE LIFE SCIENCES II</li> <li>1 LIBERAL EDUCATION ELECTIVE</li> </ul>	<b>OFF</b>
<b>TWO</b>	<ul style="list-style-type: none"> <li>INTRODUCTION TO CO-OPERATIVE EDUCATION</li> <li>FUNDAMENTALS OF ENVIRONMENTAL GEOLOGY</li> <li>GEOMORPHOLOGY</li> <li>THE EARTH FROM SPACE</li> <li>MAPPING AND GIS</li> <li>STATISTICS I</li> </ul>	<ul style="list-style-type: none"> <li>CLIMATE AND THE BIOPHYSICAL ENVIRONMENT</li> <li>ENVIRONMENT AND RESOURCES</li> <li>REMOTE SENSING OF THE ENVIRONMENT</li> <li><b>ONE OF:</b> INTRODUCTION TO COMPUTING, <b>OR</b> INTRODUCTION TO PROGRAMMING, <b>OR</b> CALCULUS II <b>OR</b> ELEMENTS OF CALCULUS II</li> <li>1 SCIENCE ELECTIVE</li> </ul>	<b>WORK TERM ONE</b>
<b>THREE</b>	<ul style="list-style-type: none"> <li>BIOGEOGRAPHY</li> <li>FLUVIAL PROCESSES</li> <li>GIS AND SPATIAL ANALYSIS</li> <li>1 SCIENCE ELECTIVE</li> <li>1 LIBERAL EDUCATION ELECTIVE</li> </ul>	<b>WORK TERM TWO</b>	<ul style="list-style-type: none"> <li>ENVIRONMENTAL HYDROLOGY</li> <li>INDEPENDENT STUDY IN GEOGRAPHY</li> <li><b>ONE OF:</b> GLOBAL ENVIRONMENTAL CHANGE <b>OR</b> INDIGENOUS-SETTLER RELATIONSHIPS IN ENVIRONMENTAL GOVERNANCE</li> <li>2 ELECTIVES</li> </ul>
<b>FOUR</b>	<b>WORK TERM THREE</b>	<b>WORK TERM FOUR</b>	<b>OFF</b>
<b>FIVE</b>	<ul style="list-style-type: none"> <li>ENVIRONMENTAL SYSTEMS ANALYSIS</li> <li>3 SCIENCE ELECTIVES</li> </ul>	<ul style="list-style-type: none"> <li>CATCHMENT PROCESSES</li> <li>APPLIED GEOMATICS</li> <li>2 SCIENCE ELECTIVES</li> </ul>	

BASED ON THE 2022/23 UNDERGRADUATE CALENDAR

PLEASE SEE THE CURRENT UNDERGRADUATE CALENDAR FOR MORE INFORMATION