

Bachelor of Science

Environmental Geomatics



ABOUT THE PROGRAM

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 will combine field research with image analysis and computer modeling to specialize in the spatial analysis of environmental systems and will apply these techniques to examine human-environment interactions and address human impacts on the environment.

WHY CO-OP?

As a co-op student, you will gain relevant paid work experience, build professional networks, and develop essential interpersonal skills needed to succeed in the workplace, all while earning your university degree. Guelph's co-op program is unique due to the exceptional level of support provided, including a co-op preparatory course, a personal connection with a Co-op Coordinator to assist you during the employment process, and access to senior student mentors.

COURSE SEQUENCING

In the Environmental Geomatics program, you will participate in four co-op work terms in addition to eight academic semesters throughout your five years at the University of Guelph. This sequencing is viewable below:

YEAR	FALL	WINTER	SUMMER
ONE	Academic	Academic	Off
TWO	Academic	Academic	Work
THREE	Academic	Work	Academic
FOUR	Work	Work	Off
FIVE	Academic	Academic	

SAMPLE JOBS

There is a diverse selection of jobs made available to Environmental Geomatics co-op students, in government, academia and the private sector within various industries. You may conduct research, perform environmental assessments, or assist in data collection and analysis. Students may work in a laboratory, in the field, and/or in an office setting. Below are some examples of positions that may be held by Environmental Geomatics co-op students:

Geographic Information Analyst

In this role, you will provide support and assistance to the GIS and Land Resource Specialist team, which will include operating GIS systems and applications, producing specific GIS-related products for clients, automating processes through scripting, and working with GIS data in support of unit and branch initiatives and priorities.

Agri-Environmental Researcher

You will be responsible for the review and synthesis of scientific literature, input of geographic analyses and agri-environmental data in geodatabases, documenting methods, assisting with field data collection, map and report preparation, and presentation of data.

GIS/Remote Sensing Specialist

You will work as part of an Earth Observation Team to develop and produce remotely-sensed environmental information (examples include: crop inventory and monitoring, soil moisture, and watershed evaluation of best management practices). You will have an opportunity to enhance your GIS and remote sensing skills, as well as automation of tasks within software platforms such as ArcGIS and PCI Geomatica. Students will contribute to project teams and the development of geo-spatial products and methodologies for processing, analyzing and mapping geo-spatial information.

Additional Sample Jobs: Field Monitoring Assistant, Student Environmental Technician, Assistant Evaluator

SAMPLE EMPLOYERS*

- Conservation Authorities, Nature Conservancies
- Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
- Agriculture and Agri-Food Canada
- Environmental/engineering consulting firms
- Environment and Climate Change Canada

*Sample co-op employer list only. Employers will vary depending on recruitment needs. Students are encouraged to be actively engaged during a job search by applying to various job opportunities that we post. In addition, students are supported in establishing and maintaining their own personal contacts.

SALARY INFORMATION

Students receive compensation from their employer for co-op work terms. The rate of pay will vary depending on a number of factors including the industry, the student's program of study, and work term level. For your reference, a **Co-operative Education Salary Guide** is available on our website, which provides hourly rates (averages and ranges) for each degree program.

ABILITIES & KNOWLEDGE ACQUIRED

Students will develop the ability to:

- Analyze the earth as an integrated human-environment system by examining dynamic flows, interactions and exchanges at different spatial and temporal scales.
- Collect and analyze geographical data and interpret its significance within the context of human-environment relations.
- Master the use of field equipment (e.g., streamflow gauging, landscape surveying, environmental monitoring).
- Communicate geographical concepts and data effectively using oral, written and visual forms
- Collaborate effectively as a team leader and member to pursue innovative solutions to environmental problems