

ENVIRONMENTAL GEOMATICS (EG)

Department of Geography, Environment and Geomatics, College of Social and Applied Human Sciences

This program provides opportunities for study of the processes and properties of the biophysical environment and a core foundation in the analytical techniques (i.e. Geographical Information Science and Remote Sensing) used for their interpretation, analysis and presentation.

Graduates of the program will have unique specialty in the application of spatial technologies to the study and assessment of biophysical and Earth surface processes.

Major (Honours Program)

Students may enter this major in Semester 1 or any semester thereafter. A student wishing to declare the major may wish to consult with a B.Sc. Faculty Advisor in the Department of Geography, Environment and Geomatics. All students are encouraged to consult with the advisor on a regular basis.

The major will require the completion of 20.00 credits as indicated below:

Students who are lacking one 4U /grade 12 course in Biology, Chemistry or Physics must take the equivalent introductory 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: https://www.uoguelph.ca/bsc/revised_SS (https://www.uoguelph.ca/bsc/revised_SS/)

Code	Title	Credits
Semester 1		
BIOL*1070	Discovering Biodiversity	0.50
CHEM*1040	General Chemistry I	0.50
GEOG*1350	Earth: Hazards and Global Change	0.50
MATH*1080	Elements of Calculus I	0.50
or MATH*1200	Calculus I	
PHYS*1080	Physics for Life Sciences	0.50
Semester 2		
BIOL*1090	Introduction to Molecular and Cellular Biology	0.50
CHEM*1050	General Chemistry II	0.50
GEOG*1300	Introduction to the Biophysical Environment	0.50
PHYS*1070	Physics for Life Sciences II	0.50
0.50 Liberal Education electives ¹		0.50
Semester 3		
ENVS*2240	Fundamentals of Environmental Geology	0.50
GEOG*2000	Geomorphology	0.50
GEOG*2420	The Earth From Space	0.50
GEOG*2480	Mapping and GIS	0.50
0.50 Liberal Education electives		0.50
Semester 4		
GEOG*2110	Climate and the Biophysical Environment	0.50
GEOG*2210	Environment and Resources	0.50

STAT*2040	Statistics I	0.50
0.50 approved Science electives		0.50
Select 0.50 credits from the following:		
CIS*1200	Introduction to Computing	0.50
CIS*1500	Introduction to Programming	0.50
MATH*1210	Calculus II	0.50
MATH*1090	Elements of Calculus II	0.50
Semester 5		
GEOG*3000	Fluvial Processes	0.50
GEOG*3110	Biogeography	0.50
Select 0.50 credits from the following:		
GEOG*3020	Global Environmental Change	0.50
GEOG*3090	Gender and Environment	0.50
GEOG*3210	Indigenous-Settler Relationships in Environmental Governance	0.50
1.00 electives, at least 0.50 from approved Science electives		1.00
Semester 6		
GEOG*3420	Remote Sensing of the Environment	0.50
GEOG*3480	GIS and Spatial Analysis	0.50
GEOG*3610	Environmental Hydrology	0.50
1.00 electives, at least 0.50 from approved Science electives		1.00
Semester 7		
GEOG*4110	Environmental Systems Analysis	1.00
1.50 electives, at least 0.50 from approved Science electives ²		1.50
Semester 8		
GEOG*4150	Catchment Processes	0.50
GEOG*4480	Applied Geomatics	1.00
1.00 approved Science electives		1.00

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GEOG*1220 Human Impact on the Environment is recommended.

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GEOG*4690 Geography Field Research is recommended.

Credit Summary

(20.00 Total Credits)

Code	Title	Credits
	First year science credits	4.50
	Required science courses semesters 3 – 8	8.50
	Required social science courses semesters 3 – 8	1.00
	Approved Science Electives	3.00
	Liberal Education Electives	1.00
	Free electives - any approved elective for B.Sc. students	2.00
Total Credits		20

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.