

HONOURS BSC IN ENVIRONMENTAL GEOSCIENCE

Investigate Earth as a professional environmental geoscientist to understand environmental interactions between geology, biology and hydrology.

The Environmental Geoscience program integrates the Environmental Science and Geology programs in one stream that balances biology and chemistry-oriented courses with solid Earth-based courses. Environmental geoscience requires multidisciplinary study – students acquire a wide range of expertise to understand the environmental interactions between solid Earth, the biosphere, the atmosphere and the oceans.

The combination of analytical courses and frequent field trips gives students hands-on exposure to all aspects of environmental geoscience. The final year involves an independent research project or equivalent units (credits) in advanced environmental geoscience courses in the specialization.

Students who follow the suggested course sequence can meet professional accreditation requirements of the Association of Professional Geoscientists of Ontario and the Ordre des géologues du Québec.

This program is offered in English and in French.

Program Requirements

Co-operative education is available with this program.

The French immersion stream is available with this program.

Compulsory courses at the 1000 level

BIO 1130	Introduction to Organismal Biology	3 Units
CHM 1311	Principles of Chemistry	3 Units
EVS 1101	Introduction to Environmental Science	3 Units
GEO 1111	Introduction to Earth Systems	3 Units
GEO 1115	Introduction to Earth Materials	3 Units
MAT 1330	Calculus for the Life Sciences I	3 Units
MAT 1332	Calculus for the Life Sciences II	3 Units
PHY 1121	Fundamentals of Physics I	3 Units
PHY 1122	Fundamentals of Physics II	3 Units

Compulsory courses at the 2000 level

BIO 2129	Ecology	3 Units
GEG 2320	Introduction to Geomatics	3 Units
GEO 2020	Field Studies I	3 Units
GEO 2163	Introduction to Mineralogy	3 Units
GEO 2165	Stratigraphy and Sedimentation	3 Units
GEO 2166	Oceanography	3 Units
GEO 2321	Structural Geology and Tectonics	3 Units
GEO 2334	Quaternary Geology and Climate Change	3 Units

Compulsory courses at the 3000 level

EVS 3120	Environmental Microbiology	3 Units
GEO 3163	Igneous Petrology	3 Units

GEO 3191	Applied Geophysics	3 Units
GEO 3342	Introduction to Hydrogeology	3 Units
GEO 3382	Geochemistry	3 Units

Compulsory courses at the 4000 level

EVS 4010	Field Course in Environmental Science	3 Units
One option from the following:		6 Units

Option 1: Honours Project

GEO 4010	Honours Project	
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Option 2: Honours Project Substitution

3 optional course units in Geology (GEO) or in Environmental Science (EVS) at the 4000 level	
3 optional course units in Geology (GEO) or in Environmental Science (EVS) at the 3000 or 4000 level	

Optional courses

3 optional course units from:		3 Units
CHM 2330 Physical Chemistry: Introduction to the Molecular Properties of Matter		
CHM 2353 Descriptive Inorganic Chemistry		
3 optional course units from:		3 Units
MAT 2377 Probability and Statistics for Engineers		
MAT 2379 Introduction to Biostatistics		
9 optional course units in geology (GEO) or in Environmental Science (EVS) at the 3000 or 4000 level		9 Units
12 elective course units from the Faculty of Arts, the Faculty of Education, the Faculty of Law, the Faculty of Social Sciences or the Telfer School of Management ¹		12 Units
18 elective course units		18 Units
Total:		120 Units

Note(s)

¹ A language course at the 1000 or 2000 level is strongly recommended.

This program can satisfy the academic requirements of the Association of Professional Geoscientists of Ontario. Check APGO's website for current eligible courses which can be used for accreditation.

Suggested elective courses: GEO 3167, GEO 4301, GEO 4342, GEO 4382, GEG 3105, GEG 3312, GEG 3102, EVS 4904.