

HONOURS BSC 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.

Requirements for this program have been modified. Please consult the 2025-2026 calendars (<http://catalogue.uottawa.ca/en/archives/>) for the previous requirements.

Compulsory Courses at the 1000 level

BIO 1131	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	GIS and the Digital Earth	3 Units
GEO 2020	Field Studies I	3 Units
GEO 2163	Introduction to Mineralogy	3 Units
GEO 2165	Sedimentology and Stratigraphy	3 Units
GEO 2321	Structural Geology and Tectonics	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
----------	---------------------------------------	---------

Optional Courses

3 course units from:	3 Units
----------------------	---------

CHM 2330 Physical Chemistry: Introduction to the Molecular Properties of Matter

CHM 2353 Descriptive Inorganic Chemistry

6 course units from:	6 Units
----------------------	---------

GEO 2166 Oceanography

GEO 2316 Introduction to Climate Science

GEO 2334 Quaternary Geology and Climate Change

3 course units from:	3 Units
----------------------	---------

GEO 2352 Geoscience Data Analysis

STA 2391 Probability and Statistics for Engineers

STA 2392 Introduction to Biostatistics

One option from the following:	9 Units
--------------------------------	---------

Option 1: Honours Project

GEO 4010 Honours Project

Option 2: Honours Project Substitution

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

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

9 optional course units in geology (GEO) or in Environmental Science (EVS) at the 3000 or 4000 level	9 Units
--	---------

Elective Courses

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
---	----------

15 elective course units ²	15 Units
---------------------------------------	----------

Total:	120 Units
---------------	------------------

Note(s)

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

² Suggested elective courses: EVS 4904, GEG 3102, GEG 3105, GEG 3312, GEO 3167, GEO 4301, GEO 4342, GEO 4382.

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.