

# HONOURS BSC GEOLOGY

Geology is a modern, dynamic and diverse science that involves investigating the composition and evolution of Earth and other planetary bodies.

Geologists and Earth scientists study the Earth, including its chemical, physical and biological evolution. Our programs teach students how to analyze Earth materials, probe the Earth from surface to core and model the processes that produced and shape its oceans and continents. The Ottawa region is a natural laboratory where students investigate resources (water, metals, minerals, petroleum), hazards (earthquakes, tsunamis, eruptions, landslides) and a variety of geological environments.

The Department of Earth and Environmental Sciences offers programs in geology and, along with the Department of Physics, a program in geology-physics. These programs balance field-based learning with theoretical and analytical investigations directly relevant to the needs of society. The final year involves an independent research project or equivalent units (credits) in advanced courses in the discipline.

The honours requirements meet the professional accreditation requirements of the Association of Professional Geoscientists of Ontario and l'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

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

GEO 3163	Igneous Petrology	3 Units
GEO 3164	Metamorphic Petrology	3 Units
GEO 3165	Advanced Sedimentology and Stratigraphy	3 Units
GEO 3167	Mineral Deposits	3 Units
GEO 3342	Introduction to Hydrogeology	3 Units
GEO 3920	Field Studies II	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

3 course units from: 3 Units

GEO 2113 Paleontology

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

3 course units from: 3 Units

GEO 3191 Applied Geophysics

GEO 3382 Geochemistry

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) at the 4000 level

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

12 optional course units in geology (GEO) at the 3000 or 4000 level 12 Units

3 optional course units in biology (BIO), chemistry (CHM), mathematics (MAT) or physics (PHY) at the 2000, 3000 or 4000 level 3 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<sup>1</sup> 12 Units

15 elective course units 15 Units

**Total: 120 Units**

Note(s)

<sup>1</sup> 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.