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, 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 2021-2022 calendars (http://catalogue.uottawa.ca/en/archives/) for the previous requirements.

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

- GEO 2020 Field Studies I 3 Units
- GEO 2163 Introduction to Mineralogy 3 Units
- GEO 2165 Stratigraphy and Sedimentation 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 3167 Mineral Deposits 3 Units
- GEO 3342 Introduction to Hydrogeology 3 Units
- GEO 3920 Field Studies II 3 Units

Compulsory courses at the 4000 level

One option from the following: 6 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
- 3 optional course units in Geology (GEO) 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
  - GEO 2113 Paleontology
  - GEO 2166 Oceanography
  - GEO 2316 Introduction to Climate Science
  - GEO 2334 Quaternary Geology and Climate Change
- 3 optional course units from: 3 Units
  - MAT 2377 Probability and Statistics for Engineers
  - MAT 2379 Introduction to Biostatistics
- 3 optional course units from: 3 Units
  - GEO 3165 Carbonate Sedimentology
  - GEO 3166 Siliciclastic Sedimentology
- 3 optional course units from: 3 Units
  - GEO 3191 Applied Geophysics
  - GEO 3382 Geochemistry

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

Electives

- 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
- 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.