HONOURS BSC GEOLOGY-PHYSICS

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 2024-2025 calendars (https://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
ITI 1120	Introduction to Computing I	3 Units
MAT 1320	Calculus I	3 Units
MAT 1322	Calculus II	3 Units
MAT 1341	Introduction to Linear Algebra	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
MAT 2322	Calculus III for Engineers	3 Units
MAT 2384	Ordinary Differential Equations and Numerical Methods	3 Units
PHY 2311	Waves and Optics	3 Units
PHY 2361	Modern Physics	3 Units
Compulsory courses at the 3000 level		
GEO 3191	Applied Geophysics	3 Units
GEO 3382	Geochemistry	3 Units
PHY 3380	Physics of the Earth	3 Units
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 Physics (PHY) at the 4000 level		
6 optional course units in Geology (GEO) or Physics (PHY) 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	
6 optional course units from:		6 Units
PHY 2104	Introduction to Circuit Theory and Electronics	
PHY 2323	Electricity and Magnetism	
PHY 2333	Mechanics	
3 optional course units in geology (GEO) at the 3000 or 4000 level		3 Units
3 optional course units in physics (PHY) at the 3000 or 4000 level		3 Units
3 optional course units in Geology (GEO) or Physics (PHY) at the 3000 or 4000 level		3 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
15 elective course units		15 Units
Total:		**120 Units**

Note(s)

1

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

Students who take the Geology-Physics Program and wish to become registered members of the Association of Professional Geoscientists of Ontario must take 21 units in Earth Sciences from among the optional courses in order to satisfy the requirements of the professional association.