HONOURS BSC IN GEOLOGY

The Department of Earth and Environmental Sciences offers programs in geology and, in co-operation with the Department of Physics, also offers a program in geology-physics. The Department is part of the Ottawa-Carleton Geoscience Centre, and its research areas include precambrian studies, tectonics, resource geology, northern studies, environmental geoscience and geochemistry.

Geology studies the composition and evolution of Earth and of other planetary bodies. The discipline extends into many areas: mineralogy, petrology, palaeontology, sedimentology, environmental geology, economic geology, geochemistry, structural geology, and geophysics.

Thus, geologists study matter and geological processes in all their diversity, from atoms and crystals to mountain ranges and the dynamics of the entire planet. The scientific methods used are equally diverse (field studies, instruments to probe the Earth's depths, microscope examination of minerals and fossils, elemental and isotopic analysis, experimental study of geochemical systems, and computer simulation of geological processes).

Although many program options are offered, students are encouraged to take the Honours B.Sc. in Geology or Geology-Physics, which allows them to meet the accreditation requirements of professional bodies and practice as geoscientists.

In first year, students increase their knowledge of mathematics, physics, chemistry, and biology. Later, they complete several geology courses, which consist of lectures, problem-solving assignments, laboratory work and field excursions.

This program is offered in English and in French.

Program Requirements

Co-operative education is available with this program.

The extended French stream is available with this program.

BIO 1130  Introduction to Organismal Biology  3 Units
CHM 1311  Principles of Chemistry  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
3 course units from:

CHM 2330  Physical Chemistry: Introduction to the Molecular Properties of Matter  3 Units
CHM 2353  Descriptive Inorganic Chemistry  3 Units

GEO 2020  Field Studies I  3 Units
3 course units from:

GEO 2113  Paleontology
GEO 2166  Oceanography
GEO 2334  Quaternary Geology and Climate Change

3 course units from:

GEO 2163  Introduction to Mineralogy  3 Units
GEO 2164  Analytical Methods in Mineralogy  3 Units
GEO 2165  Stratigraphy and Sedimentation  3 Units

GEO 2321  Structural Geology and Tectonics  3 Units
3 course units from:

MAT 2377  Probability and Statistics for Engineers  3 Units
MAT 2379  Introduction to Biostatistics

GEO 3163  Igneous Petrology  3 Units
GEO 3164  Metamorphic Petrology  3 Units
3 course units from:

GEO 3165  Carbonate Sedimentology
GEO 3166  Siliciclastic Sedimentology
GEO 3167  Mineral Deposits  3 Units
GEO 3342  Introduction to Hydrogeology  3 Units
3 course units from:

GEO 3382  Geochemistry
GEO 3191  Applied Geophysics

GEO 3920  Field Studies II  3 Units
GEO 4010  Honours Project  6 Units
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
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  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.

This message is intended for students registered in the Faculty of Science. If the components of your program of study require common compulsory courses, you will have to replace the units as follows:

1. 1000-level courses must be replaced with elective course units;
2. 2000-level courses and above must be replaced with optional course units from either discipline at the same level or above.

Please note that all programs in the Faculty of Science require a minimum of 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. Once you have decided on the replacement courses, please inform the Office of Undergraduate Programs of the Faculty of Science by email at infosci@uOttawa.ca so that we may amend your Academic Advisement accordingly.