

B.Sc. in Earth Science, Specialization (4 yr degree)

Total: 120 credits (with a minimum of 66 credits of GEOL courses plus 27 credits of foundation science plus electives)*

* B.Sc. students are required to take at least 12 cr from outside the Faculty of Science and Engineering. No more than 72 cr can be taken from any one subject area.

The four-year B.Sc. in Geology is designed to meet the minimum knowledge (academic) requirements for registration as a professional geologist (P.Geol.) with the Association of Professional Geoscientists of Ontario (APGO).

1st year

CHMI 1006 - General Chemistry I

CHMI 1007 - General Chemistry II

GEOL 1006 - Introductory Geology I

GEOL 1007 - Introductory Geology II

MATH 1036 - Calculus I

PHYS 1006 - Introductory Physics I or PHYS 1206 - Physics for the Life Sciences I

PHYS 1007 - Introductory Physics II or PHYS 1207 - Physics for the Life Sciences II

+ electives (9 cr) (6 cr of foundation science* and 3 cr of Humanities or Social Science are recommended)

* A foundation science is a course in biology, chemistry, computer programming, mathematics, physics or statistics at the first year level or higher (remedial secondary school level or transitional courses will not be accepted for credit).

2nd year

GEOL 2006 - Field Geology I

GEOL 2126 - Mineralogy I

GEOL 2127 - Optical Mineralogy

GEOL 2237 - Sedimentary, Igneous & Metamorphic Rocks

GEOL 2406 - Paleobiology I

GEOL 2807 - Geochemistry I

STAT 2246 - Statistics for Sciences

+ electives (9 cr) (3 cr of foundation science and 6 cr of Humanities or Social Science are recommended)*

* CHMI 2526 is strongly recommended for students focusing on mineral exploration, igneous or metamorphic petrology, geochemistry or mineralogy.

3rd year

GEOL 3006 - Field Geology II
GEOL 3206 - Igneous Petrology
GEOL 3207 - Metamorphic Petrology
GEOL 3217 - Sedimentology and Stratigraphy
GEOL 3306 - Structural Geology
GEOL 3607 - Ore Deposits & Their Geological Environment
GEOL 3807 - Geochemistry II

+ electives* (9 cr) (3 cr of Humanities or Social Science are recommended;
GEOL 3056 - Computer Applications in the Geosciences or GEOG 3056 - GIS
Application is recommended)

4th year

GEOL 4506 - Tectonics, Petrogenesis and Metallogenesis

+ 9 credits from:

GEOL 4016 - Precambrian Geology
GEOL 4026 - Field Geology III
GEOL 4127 - Advanced Mineralogy
GEOL 4206 - Advanced Igneous Petrology
GEOL 4307 - Polyphase Metamorphism & Deformation
GEOL 4607 - Ore-Forming Processes

+ 6 credits from:

GEOL 4217 - Carbonate Sedimentology
GEOL 4226 - Pleistocene & Glacial Geology
GEOL 4956 - Geophysics

+ electives* (12 cr)

* Up to 6 credits may be GEOL 4005 - Thesis or two 3-credit GEOL courses not
already taken above or from the additional Geoscience course list below.
Students must ensure their overall degree requirements are met.

Additional geoscience courses eligible for APGO credit: *

BIOL 4076 - Ecosystem Ecology
CHMI 3326 - Aquatic Chemistry
CHMI 4197 - Environmental Analytical Chemistry
ENSC 3716 - Environmental Impact Assessment

GEOG 2037 - Introduction to Remote Sensing
GEOG 2126 - Climatology I
GEOG 3036 - Air Photo Interpretation
GEOG 3056 - GIS Application
GEOL 2066 - Near-surface Geophysical Methods
GEOL 2106 - Introductory Geomorphology
GEOL 3056 - Computer Applications in the Geosciences
GEOL 3136 - Watershed Hydrology
GEOL 3397 - Introductory Soil Science
GEOL 3417 - Oceanography
GEOL 4005 - Thesis (6cr)
GEOL 4037 - Applied Remote Sensing
GEOL 4706 - Hydrogeology
GEOL 4406 - Quaternary Paleoenvironmental Reconstruction
GEOL 4416 - Global Change - The Geologic Record

* Courses may have prerequisites not listed here.