

B.Sc. in Environmental Geoscience, Specialization (4 yr degree)

Total: 120 credits (with a minimum of 63 credits of GEOL/ENSC 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 Environmental Geoscience designed to meet the minimum knowledge (academic) requirements for registration as a professional geologist (P.Geo.) with the Association of Professional Geoscientists of Ontario (APGO).

1st year

ENSC 1406 - Earth's Environmental Systems

GEOL 1006 - Introductory Geology I

GEOL 1007 - Introductory Geology II

CHMI 1006 - General Chemistry I

CHMI 1007 - General Chemistry 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 (6 cr) (3 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). Introductory biology is recommended.

** ENVI 1507 - Introduction to Environmental Studies is recommended as a social science elective.

2nd year

GEOL 2006 - Field Geology I

GEOL 2066 - Near-surface Geophysical Methods*

GEOL 2106 - Introductory Geomorphology

GEOL 2126 - Mineralogy I

GEOL 2237 - Sedimentary, Igneous & Metamorphic Rocks

GEOL 2406 - Paleobiology I

GEOL 2807 - Geochemistry I

STAT 2246 - Statistics for Scientists

+ electives (6 cr) (at least 3 cr of Humanities or Social Science are recommended)

* GEOL 2066 - Near-surface Geophysics is offered in alternate years and should be taken in 2nd or 3rd year as available.

3rd year

GEOL 3006 - Field Geology II or GEOL3007- Environmental Field Geology*
GEOL 3056 - Computer Applications in the Geosciences or GEOG 3056 – GIS
Application

GEOL 3136 - Watershed Hydrology or GEOL 4706 - Hydrogeology**

GEOL 3217 - Sedimentology and Stratigraphy

GEOL 3306 - Structural Geology

GEOL 3397 - Introductory Soil Science (or BIOL 3397 - Soil Biology)

BIOL 3056 - Mineral Exploitation & the Biosphere or BIOL 3376 - Restoration Ecology I

CHMI 3326 - Aquatic Chemistry or CHMI 3116 - Instrumental Techniques

+ electives (6 cr) (6 cr of Humanities or Social Science are recommended if not already taken)

* Subject to approval another advanced environmental field methods course may be used to meet this requirement.

** Courses offered in alternate years should be taken in 3rd or 4th year as available.

4th year

GEOL 4226 - Pleistocene & Glacial Geology

GEOL 3136 - Watershed Hydrology or GEOL 4706 - Hydrogeology

+6 credits from among:

GEOL 3417 - Oceanography

GEOL 4406 - Quaternary Paleoenvironmental Reconstruction

GEOL 4416 - Global Change - The Geologic Record

+ 6 additional GEOL credits not already taken above or from the Additional Geoscience course list below:

+ electives* (12 cr)

* Additional GEOL courses (including GEOL 4005 - Thesis) may be taken up to a maximum of 72 credits. Students must ensure their overall degree requirements are met.

Additional geoscience courses eligible for APGO credit: *

BIOL 4076 - Ecosystem Ecology

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 2127 - Optical Mineralogy
GEOL 3206 - Igneous Petrology
GEOL 3207 - Metamorphic Petrology
GEOL 3607 - Ore Deposits & Their Geological Environment
GEOL 3807 - Geochemistry II
GEOL 4005 - Thesis
GEOL 4016 - Precambrian Geology
GEOL 4026 - Field Geology III
GEOL 4037 - Applied Remote Sensing
GEOL 4127 - Advanced Mineralogy
GEOL 4206 - Advanced Igneous Petrology
GEOL 4217 - Carbonate Sedimentology
GEOL 4307 - Polyphase Metamorphism & Deformation
GEOL 4607 - Ore-Forming Processes
GEOL 4956 - Geophysics

*Courses may have prerequisites not listed here. GEOL 2127 - Optical Mineralogy is prerequisite for higher level courses in petrology and ore formation.