

# GEOLOGY HONOURS (B.SC.) (75 CREDITS)

**Offered by:** Earth & Planetary Sciences (Faculty of Science)

**Degree:** Bachelor of Science

**Program credit weight:** 75

## Program Description

The program curriculum provides a rigorous foundation in the fundamental earth science subjects and in advanced subjects relevant to exploration for energy resources, industrial and ore minerals, and to environmental geosciences. The program meets the academic requirements shared by the professional orders for geologists and environmental geoscientists in Canadian provinces.

### Degree Requirements — B.Sc.

*This program is offered as part of a Bachelor of Science (B.Sc.) degree.*

To graduate, students must satisfy both their program requirements and their degree requirements.

- The program requirements (i.e., the specific courses that make up this program) are listed under the Course Tab (above).
- The degree requirements—including the mandatory Foundation program, appropriate degree structure, and any additional components—are outlined on the Degree Requirements page.

Students are responsible for ensuring that this program fits within the overall structure of their degree and that all degree requirements are met. Consult the Degree Planning Guide on the SOUSA website for additional guidance.

**Note:** For information about Fall 2025 and Winter 2026 course offerings, please refer to Visual Schedule Builder. A technical issue is causing the "Terms offered" field to incorrectly report "this course is not currently offered" for many courses in the Course Catalogue.

## Required Courses (42 credits)

Expand allContract all

Course	Title	Credits
EPSC 210	Introductory Mineralogy.	3
EPSC 212	Introductory Petrology.	3
EPSC 220	Principles of Geochemistry.	3
EPSC 231	Field School 1.	3
EPSC 233	Earth and Life Through Time	3
EPSC 240	Geology in the Field.	3
EPSC 303	Structural Geology.	3
EPSC 320	Elementary Earth Physics.	3
EPSC 340	Earth and Planetary Inference.	3
EPSC 480D1	Honours Research Thesis.	3
EPSC 480D2	Honours Research Thesis.	3
MATH 222	Calculus 3.	3

MATH 314	Advanced Calculus.	3
MATH 315	Ordinary Differential Equations.	3

## Complementary Courses (33 credits)

15 credits of earth science topics among

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Course	Title	Credits
EPSC 355	Sedimentary Geology.	3
EPSC 423	Igneous Petrology.	3
EPSC 425	Sediments to Sequences.	3
EPSC 445	Metamorphic Petrology.	3
EPSC 452	Mineral Deposits.	3
GEOG 272	Earth's Changing Surface.	3

3 credits of environmental and ore-forming processes

Expand allContract all

Course	Title	Credits
EPSC 325	Environmental Geochemistry.	3
EPSC 519	Isotopes in Earth and Environmental Science.	3
EPSC 549	Hydrogeology.	3
EPSC 561	Ore-forming Processes.	3
EPSC 590	Applied Geochemistry Seminar.	3
GEOG 305	Soils and Environment.	3

15 credits of other specializations can be drawn from the categories above or from:

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Course	Title	Credits
EPSC 331	Field School 2.	3
EPSC 334	Invertebrate Paleontology.	3
EPSC 350	Tectonics.	3
EPSC 482	Research in Earth and Planetary Sciences.	3
EPSC 501	Crystal Chemistry.	3
EPSC 510	Climate and Geodynamics	3
EPSC 520	Earthquake Physics and Geology.	3
EPSC 522	Advanced Environmental Hydrology.	3
EPSC 525	Microbiology of the Earth System.	3
EPSC 530	Volcanology.	3
EPSC 547	Modelling Geochemical Processes.	3
EPSC 548	Igneous Petrogenetic Mechanisms.	3
EPSC 567	Advanced Volcanology.	3
GEOG 201	Introductory Geo-Information Science.	3
GEOG 322	Environmental Hydrology.	3

Courses from other departments may also be used, with the permission of the Director of undergraduate studies, when they meet the academic requirements of professional orders in most Canadian provinces.