GEOLOGY (BSc)

Geology opens the door to careers that explore and protect our planet. Geologists help locate natural resources, assess natural hazards like earthquakes and volcanoes, classify rocks, minerals, and fossils, and contribute to scientific predictions of global climate change by studying Earth's past. In Canada, geoscience is a regulated profession, and graduates with a Geology degree can pursue careers in resource exploration, environmental consulting, government agencies, mining, energy, and research.

What Can I Do with My Degree?

Sample Job Titles:

- Exploration Geologist
- Petroleum Geologist
- Environmental Geologist
- Mine Site Geologist
- Mineralogist
- Planetary Geologist
- Hydrogeologist
- Glaciologist
- Paleontologist
- Volcanologist
- Hydrologist*
- Development Geologist/ Geomodeler
- Project Geologist/Manager
- Environmental Impact Analyst
- Sustainable Development Manager
- Seismologist*
- Well Site Geologist
- Contaminant Hydrogeologist
- Economic Geologist
- Engineering Geologist
- Field Geologist
- Geochemist
- Geomorphologist
- Precambrian Geologist
- Geoscience Consultant
- Sedimentologist
- Stratigrapher
- Structural Geologist
- Surficial Geologist
- Oceanographer*

**The job may require additional education, specific coursework, technical training or a graduate degree.*

Areas of Employment

- Mining/Mineral Resources Companies
- Environmental consulting firms
- Petroleum industry
- Government Geological Survey Units
- Resource Exploration Companies
- Engineering firms
- Educational Institutions
- Science centres and museums
- Professional Geoscience consulting
- Geological software development firms

Resources

University of Manitoba Career Services | www.umanitoba.ca/student/careerservices
Click on "Career Connect" and register as a Student to view current job postings

University of Manitoba | Exploring Occupations I Geologist
https://umanitoba.ca/career-services/career-planning/explore-occupations/geologists-geophysicists-geological-technologists

Engineers Geoscientists Manitoba | https://www.enggeomb.ca/CareerOpportunities.html

Earth Science Canada | www.earthsciencecanada.com/careers

Geology.com | www.geology.com/articles/what-is-geology.shtml

PDAC Student-Industry Mineral Exploration Workshop (S-IMEW) | https://pdac.ca/students

Environmental Careers Organization Canada | www.eco.ca

American Institute of Professional Geologists | https://aipg.org

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GEOLOGY (BSc)

The Geology degree program provides an in-depth understanding of Earth systems from the formation of natural resources to the processes behind natural hazards. Students in the Major and Honours programs gain hands-on experience through intensive field mapping courses, advanced regional mapping, and additional field courses. The curriculum meets Geoscientists Canada's professional guidelines, preparing graduates for professional registration and diverse opportunities in the geosciences.

DEGREES / PROGRAMS OFFERED
4-Year Major
4-Year Honours

GRADUATION REQUIREMENTS
4-Year Major – 120 credit hours, DGPA 2.5
4-Year Honours – 120 credit hours, DGPA 3.0

REQUIRED COURSES		Credits
GEOL 1340	The Dynamic Earth (C+ / B)	3
GEOL 1400	Time-Trekker's Travelog: Our Evolving Earth	3
MATH 1500	Introduction to Calculus (C)	3
PHYS 1020	General Physics 1	3
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics (C)	3
CHEM 1120	Introduction to Chemistry Techniques	3
GEOL 2440	Structural Geology 1	3
GEOL 2500	Introduction to Mineralogy	3
GEOL 2520	Igneous and Metamorphic Petrology	3
GEOL 2530	Introductory Sedimentary Petrology and Stratigraphy	3
GEOL 2800	Optics and Spectroscopy of Minerals	3
GEOL 2770	Principles of Inorganic Geochemistry	3
GEOL 3910	Introduction to Field Mapping	3
GEOL 2060	Introductory Geophysics	3
GEOL 3110	Petrogenesis of Igneous Rocks	3
GEOL 3130	Communication Methods in the Geological Sciences	3
GEOL 3310	Paleontology	3
GEOL 3440	Structure and Metamorphism	3
GEOL 3490	Glacial Geology	3
GEOL 3900	Sedimentology	3
GEOL 4910	Advanced Field Mapping	3
GEOL 4670	Global Tectonics	3
GEOL 3450	Hydrogeology (for Honours program)	3
GEOL 4300	Mineral Deposits (for Honours program)	3
GEOL 4520	Petroleum Geology (for Honours program)	3
GEOL 4870	Honours Thesis (for Honours program only)	6

ELECTIVE COURSES

Major
- 6 credit hours Faculty of Arts course
- 30 credit hours elective courses
- 15 credit hours Geological Sciences Group A electives*
- 3 credit hours Geological Sciences Group B electives*

Honours
- 6 credit hours Faculty of Arts course
- 24 credit hours elective courses
- 9 credit hours Geological Sciences Group A electives*

**Refer to the Academic Calendar for course options and the most up-to-date information. In any case of discrepancy, the Academic Calendar shall prevail.*