Our Mission

To be an internationally recognized top-tier research department in Energy Geoscience, with complementary strengths in solid Earth processes, subsurface imaging, environmental and arctic studies, while providing comprehensive student-centred programs recognized for excellence world-wide.

Calgary, Canada’s Energy Capital

A cosmopolitan city with over one million residents, Calgary is the corporate and technical centre for Canada’s oil and gas industry. The world-famous Canadian Rocky Mountains are located one hour’s drive away and provide unlimited year-round recreational opportunities.

Department Overview

- Located in one of the largest concentrations of geoscientists in the world and ideally situated to benefit from interactions with Alberta’s oil and gas industry, the Geological Survey of Canada’s Calgary offices and the world-renowned Royal Tyrrell Museum of Paleontology in Drumheller.
- Largest Earth Science student cohort in Canada.
- Internationally recognized for its strengths in seismic geophysics, petroleum geology, hydrology, petrology and regional tectonics
- 37 full-time academics, 18 support staff, 12 emeritis professors and ~35 research staff funded through external grants
- Emerging strengths in carbon capture & storage and Arctic geoscience
What is Geoscience?

Geoscience encompasses all aspects of the solid Earth and its interactions with the atmosphere, hydrosphere and biosphere. Geologists are interested in processes on and within the earth, interpreting the history of the Earth and the distribution of mineral and energy resources. Geophysicists study the physics of processes within the Earth and the development and use of physical methods to solve geoscientific problems. Hydrogeologists focus on the flow of fluids and chemical compounds, such as contaminants, beneath the ground surface, and their interactions with surrounding rock and soil.

Is Geoscience right for you?

- Do you have strengths in several scientific disciplines?
- Do you enjoy travel, working outdoors, in a lab or using computers?
- Are you looking for real-world challenges?

If so, Geoscience might be the right choice for you!

Employment

- Geoscientists have numerous career options, including professional employment in the Oil & Gas, Mining or related service industries, research in government survey organizations, consulting for environmental or geotechnical companies and work in academia on everything from natural hazards to paleontology.

- There is a looming labour shortage in the Oil & Gas industry where expected demand for Geologists and Geophysists ranks second only to drilling coordinators (Source: Petroleum Human Resources Council of Canada).

- As we enter a period of environmental crisis and rapid transition, demand for geoscientists is also very high in government and the environmental industry, due to anticipated growth and demographic trends (Source: Petroleum Human Resources Council of Canada).

- Unlike other scientific disciplines, professional geoscientists register with provincial organizations such as the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA).
Undergraduate Studies

The Department of Geoscience offers B.Sc. and B.Sc. Honours degrees in:

Geophysics
Applies the principles of physics to study the Earth’s interior and uses seismic, gravity, magnetic and electromagnetic methods to locate resources and to solve environmental problems.

Geology
Emphasizes the nature and origin of rocks and the resources contained within them, and includes local and international field experience.

Applied and Environmental Geology
Focuses on applications of surficial and engineering geology, hydrogeology and geochemistry.

Petroleum Geology Concentration
Focuses on principles and theories behind hydrocarbon accumulation, maturation, migration and trapping as well as occurrences of petroleum.

Collaborative Programs
- Earth Science Program
- Environmental Science Program

Admission Requirements *
- English Language Arts 30 or equivalent
- Pure Math 30 or equivalent
- Two of the following: Biology 30, Chemistry 30, Physics 30 or Math 31 or equivalents
- One additional Grade 12 subject

* Or equivalent courses for out-of-province students

For more information see:
www.ucalgary.ca/geoscience/undergraduate

Conducting a snow survey in the Rockies
Graduate Studies

The Department of Geoscience offers outstanding programs for graduate training and has many world renowned research groups. About 170 Ph.D. and M.Sc. Graduate students are currently enrolled.

The Department of Geoscience, through the Faculty of Graduate Studies, offers the following graduate degree programs:

- M.Sc. (Geology or Geophysics)
- Ph.D. (Geology or Geophysics)
- Master of Science Course-based (Geology or Geophysics); this program targets professionals already in the workforce or with relevant work experience.
- Master of Science Course-based with a specialization in Reservoir Characterization (MSRC)

For more information visit: www.ucalgary.ca/geoscience/graduate

View of minerals in a rock through a microscope

Department of Geoscience’s research area, Yelverton Pass, NW Ellesmere Island, Arctic Canada
Hydrology research in the Rockies

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