

# Geological Engineering

## Undergraduate Program at Queen's University

### WHAT IS A QUEEN'S GEOLOGICAL ENGINEER?

A professional with an international reputation for designing & implementing sustainable engineering solutions to human needs, involving complex & changing Earth systems, processes & materials.

[www.geol.queensu.ca/eng\\_web/](http://www.geol.queensu.ca/eng_web/) or [geo-eng.ca](http://geo-eng.ca)



### What is Geological Engineering ?

Geological Engineering utilizes a solid base of geology, physics, chemistry, applied solid & fluid mechanics, economics, field methods & applied mathematics.

Geo-Eng grads excel in four-dimensional visualization, lateral thinking, system integration & teamwork.

Design problems are always challenging & often open-ended, involving conceptual & quantitative modelling, forensic engineering of complex natural systems & their interactions with human infrastructure.

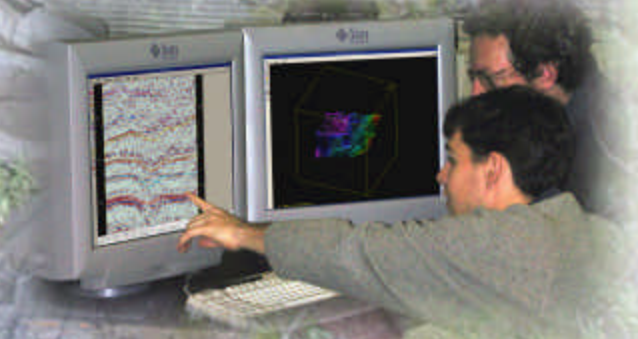
Geo-Eng design includes research, fieldwork, data collection, in situ measurement, lab study, modelling & computational analysis, design & implementation.

### Who is a Geological Engineer ?

A Geo-Engineer operates worldwide in:

Mineral and petroleum exploration, mining & mineral processing, hydrocarbon reservoir engineering, Geotechnical investigations, risk assessment, hazard mitigation, excavation & tunneling, mine stabilization, Environmental remediation, groundwater systems engineering, water resource & waste management, and Application of geophysical and geochemical techniques to geoscience & geo-engineering problems.

Geological Engineers are equally at home in the field, in the office, in the lab or in the boardroom.



### Career Paths

Summer work experience in a branch of geological engineering is usually the first step for undergraduates. Graduates may work in large & small companies within the oil, gas and mining sectors, or they may work for environmental & geotechnical companies & agencies. Still others work for research centres. The work always involves exciting challenges & a wide variety of fascinating locations in Canada & around the world.

