Discover, development and sustainability of water, mineral and energy resources as well as coping with climate change, human impact and natural hazards facing increasing global populations, all depend on a deep understanding of natural processes. Our students study the Earth in this context, with high-demand career options in diverse fields such as mineral and oil exploration, mining and hydrocarbon extraction, surface and underground construction, environmental assessment, protection and rehabilitation, groundwater investigation and resource management.

As a Geological Science student, you will learn in a variety of ways. Many courses involve laboratory and field work in a small group setting. Second and upper year courses include several extended field trips. When we aren’t in the field, our students spend their time in one of our world-class teaching labs such as the Geochronology Lab that looks at items 100,000 years old or older, or the X-ray Diffraction and Clay Mineral Lab to separate and identify minerals and crystals. The Miller Museum collections of rocks and minerals provides students the opportunity to study samples collected from around the world.

We are one of the largest Geology departments in Canada - and yet we pride ourselves on our small group settings and classes. At the same time, most students rack up more than 240 hours of experience on various field trips.
**2ND YEAR**

In second year take core courses GEOL 200, 221, 232, 238, 235, 249 and START 263.

Please see the Academic Calendar to ensure you are taking the correct courses.

Want to enhance your degree? Consider a certificate in Geographic Information Science or explore other certificates available.

**GET THE COURSES YOU NEED**

In first year take CHEM 112, PHYS 106, MATH 121, GEOL 104 and GEOL 107.

Build your transferable skills in time management, problem-solving, writing and more with Student Academic Success Services.

**GET RELEVANT EXPERIENCE**

Join teams or clubs on campus such as the Queen's University Experimental Sustainability Team (QUEST) and the Queen's Project on International Development (QPID).

See the AMS Clubs Directory or the Queen's Get Involved page for more ideas.

Volunteer on or off campus with different community organizations, such as the Earth Centre and Women in Science and Engineering.

Get involved with the Miller Club (the Departmental Student Council).

Start or continue volunteering with organizations such as Engineers Without Borders.

**GET CONNECTED WITH THE COMMUNITY**

Prepare for work or studies in a multi-cultural environment by taking QUIP's Intercultural Competency Certificate, and research possible immigration regulations.

Speak to a QUIP advisor to get involved in their programs, events, and training opportunities.

**GET THINKING GLOBALLY**

Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a 3rd year exchange through the International Programs Office.

**GET READY FOR LIFE AFTER GRADUATION**

Grappling with program decisions? Contact the Chair of Undergraduate studies in the Department of Geological Sciences and Geological Engineering.

Get some help wondering about career options from Career Services.

Explore different careers of interest by accessing resources in the Career Services Career Advising and Resource Area, such as the Geology Career Files. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn.

Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests like the LSAT or GMAT and get help thinking about grad school from Career Services.

**3RD YEAR**

In third year take core courses GEOL 300, 301, 321, 365 and GEOL option courses. For more information on 3rd year program requirements, including electives, see the Arts and Science Calendar.

Need help mapping all of your core, option, supporting and elective courses (including those not listed above) to make sure you will have what you need to complete your degree? Use the Course Mapping Tool on the Arts and Science website.

**WHERE COULD I GO AFTER GRADUATION?**

- Agricultural sciences
- Architecture
- Business administration and management
- Community relations for the extractive industries
- Contaminant remediation
- Ecology
- Environmental conservation and management
- Forestry
- Geology
- Geomatics
- Geophysics
- International development
- Landscape architecture
- Law
- Meteorology
- Mineral industry
- Natural hazard identification and mitigation
- Oceanography
- Oil and gas exploration and extraction
- Paleontology
- Public administration
- Renewable energy
- Surveying and cartography
- Toxicology
- Volcanology
- Waste management
- Water conservation

Some careers may require additional training.

**4TH OR FINAL YEAR**

In fourth year take GEOL 488 and 491. You may wish to do an independent studies project (GEOL 543). Take your remaining GEOL option courses and any remaining core, option, and elective courses. Make sure to map your minor and / or certificate(s) as well.

Apply to graduate in SOLUS.

Investigate requirements for full-time jobs or other opportunities related to careers of interest.

Assess what experience you're lacking and fill in gaps with volunteering, clubs, or internships – check out the Career Services skills workshop for help.

Consider joining professional organizations such as the Geological Association of Canada, the Canadian Society of Petroleum Geologists, the International Association of Hydrogeologists and the National Ground Water Association.

Join groups on LinkedIn reflecting specific careers or topics of interest in Geology.

International students interested in staying in Canada can speak with an International Student Advisor.

Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, grad school applications, or other decisions.

Visit careers.queensu.ca/majormaps.html for the online version with links!

*This map is intended to provide suggestions for potential activities and career paths, but everyone's abilities, experience, and constraints are different. Build your own map using our online My Major Map tool.*
What can I learn studying GEOLOGICAL SCIENCES?

- Knowledge of principles and techniques of the earth sciences
- Practical applications of geological science techniques
- Understanding of the variability of earth materials and their changes with time and environment
- Fieldwork skills to design and carry out site investigations to solve problems
- Technical skills to use up-to-date geological analysis tools, equipment and software
- Research skills to conduct scientific research and analyze quantitative information, develop multiple working hypotheses
- Problem solving to approach a range of problems from various perspectives
- Ability to work independently and in a team on a project
- Oral and written communication to clearly explain technical information and write reports
- Resource and time management

What employers want

The Canadian Council of Chief Executives list the top 6 skills sought by employers as:

1. People skills
2. Communication skills
3. Problem-solving skills
4. Analytical abilities
5. Leadership skills
6. Industry-specific knowledge

Take the time to think about the unique skills you have developed at Queen's, starting with the skills list here for ideas. Explaining your strengths with compelling examples will be important for applications to employers and further education. For help, check out the Career Services skills workshop.

Why study in Kingston?

For over 175 years, the Kingston community has been a collection of bright minds. We are proud that our city was named one of the top Intelligent Communities across the globe, an accolade largely due to the thousands of students who study here every single year. In fact, the BBC has identified Kingston as one of the GREATEST UNIVERSITY TOWNS in the world, which might be why Instagram named the city 'the happiest place on the planet'. Just a quick drive to Toronto, Montreal, Ottawa and even New York, Kingston is a safe and liveable city. Not only are we known as the freshwater sailing capital of the world, Kingston is arguably the birthplace of hockey. Wondering what to do while you’re attending school? Queen's has more clubs per capita than any other university in Canada, and Kingston has more restaurants per capita than any other city in North America; your time here is guaranteed to be ‘fresh made daily’.