Why GRADUATE STUDIES in GEOLOGICAL SCIENCES?

Geoscientists and geological engineers interpret the natural world. They bring methods such as geophysics, geochemistry, geobiology and field geology together to understand the modern and ancient Earth. Clues concealed in rocks and minerals, fluids and fossils, mountains and sediments, glaciers and volcanoes are marshaled to understand and explain the Earth system at all scales. Managing water, mineral and energy resources, designing sustainable strategies for infrastructure and industrial growth, and coping with natural and anthropogenic hazards facing increasing global populations, including climate change, all depend on a deep understanding of natural processes.

“The Queen’s Master of Science program has been invaluable in refining not only my geological skills, but also in furthering my curiosity for the science. The research opportunities exist at a global scale and allow one to apply concepts learned [...] to cutting edge projects spanning all facets of geology.”

– Cole McGill, MSc

Why QUEEN’S?

As a Master’s student in Geological Science you are part of one of the most research intensive universities in Canada. Our research program is internationally renowned with a wide range of research activities in all of the major specialization areas of geological science. As well, students are able to work in first-rate facilities with world-renowned scientists and research engineers, and have opportunities to collaborate with industrial leaders and engage in extensive fieldwork on six continents, making our program truly a world-class experience. Students can also collaborate with other departments at Queen’s, including Mining, Environmental Studies, Chemistry and Biology as well as other institutions like RMC.

Program STRUCTURE

The Master’s of Geological Sciences is offered in both a 1-year and 2-year method of completion:

- Master of Science in Applied Geology Method I (1 year): 6 term length courses and a project or 8 term length courses only.
- Master of Science Method II (2 years): 4 term length courses and thesis.

RESEARCH Areas

- Economic Geology & Mineral Exploration
- Petrology & Structural Geology
- Sedimentology, Sedimentary Geochemistry & Paleobiology
- Geophysics and Geochronology
- Applied Geoenvironmental Sciences & Geotechnique

We encourage you to identify an area of research interest and contact a potential supervisor before applying.

Visit the Geological Sciences website to read faculty profiles and learn more about faculty members’ research areas. When you find a faculty member with similar research interests to yours, contact him/her and tell them about your interest in graduate work and related experience.
Geological Sciences

MASTERS OF SCIENCE (MSc)

GETTING STARTED

- Start with key priorities like developing your relationship with your supervisor, forming your committee, and doing your coursework.
- Find your way through the academic process with help from departmental and Expanding Horizons professional development workshops, the department Grad Chair and the SGS Habitat.

MAXIMIZE RESEARCH IMPACT

- Start to think about the audiences for your research.
- If you will be continuing graduate studies, apply for NSERC and OGS funding.

BUILD SKILLS AND EXPERIENCE

- Consider positions in student services, the SGS Habitat, or media outlets like the Queen's Journal, CFBRC, and the SGS Blog. Look in the AMS Clubs Directory for more ideas.
- Serve on departmental or university committees. Talk to the Joliffe Club (graduate student society) for tips on getting involved.
- Check out professional development workshops from Expanding Horizons.

ENGAGE WITH YOUR COMMUNITY

- Explore how you can connect with your community through experiential opportunities on- and off-campus.
- Consider volunteering with different local community organizations, such as Martha’s Table or Loving Spoonful.

LAUNCH YOUR CAREER

- Finding a career that fits starts with knowing yourself. Get help by taking a Career Services workshop or meeting with a career counsellor. Check out books like So What Are You Going to do With That? or for advice on various career options.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites. Stay on the lookout for special events like School of Graduate Studies Career Week to explore your career pathways.
- Check admission test deadlines if needed for further studies.

INTERMEDIATE STAGE

- Complete your coursework, begin to research and write your thesis.
- Attend or present at a graduate conference. Ask your supervisor for suggestions.
- Keep starting an eportfolio of your skills, experiences and competencies.
- Use a Research Assistant or Teaching Assistant position to develop your research or teaching skills.
- For help with teaching, get support from the Centre for Teaching and Learning. Enroll in SGS902 or the PUTL certificate for more professional development in teaching and learning.

WRAPPING UP

- Complete and defend your thesis.
- Attend a major conference in your field, such as the International Conference on Geology and Geosciences.
- Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.
- Consider putting an article in The Conversation.

WHAT WILL I LEARN?

A graduate degree in Geological Sciences can equip you with valuable and versatile skills, such as:
- Knowledge and technical skills
- Effective communication skills in multiple forms for diverse audiences
- Information management: prioritizes, organizes and synthesizes large amounts of information
- Time management: meet deadlines and manage responsibilities despite competing demands
- Project management: develop ideas, gather information, analyze, critically appraise findings, draw and act on conclusions
- Creativity and innovation
- Perseverance
- Independence and experience as a collaborative worker
- Awareness, an understanding of sound ethical practices, social responsibility, responsible research and cultural sensitivity
- Professionalism in all aspects of work, research, and interactions
- Leadership: initiative and vision, leading people and discussion

WHERE CAN I GO?

A Master’s degree in Geological Sciences can take your career in many directions. Many of our MSc students choose to continue their academic inquiry with a PhD. Our Master’s students are equipped with a strong foundation for careers in:
- Academia and research
- Mineral and oil exploration
- Mining and hydrocarbon extraction
- Policy analysis
- Surface and underground construction
- Environmental assessment
- Conservation and rehabilitation
- Resource management
- Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

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

* This map is intended to provide suggestions for activities and careers, but everyone’s abilities, experiences, and constraints are different. Build your own Grad Map using our online My Grad Map tool.

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Application FAQs

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
- Bachelor degree in one of Geological Sciences, Geological Engineering, Mining Engineering, or Civil Engineering. Degrees in fields such as Biology, Chemistry, Physics, Environmental Sciences, or Geography are seriously considered, but may require additional Geology courses.
- Grade requirements: B average.

ADDITIONAL REQUIREMENTS
- If English is not a native language, prospective students must meet the English language proficiency requirements in writing, speaking, reading, and listening. The School of Graduate Studies requires the following minimum scores: (1) TOEFL (paper-based): 550, (2) TOEFL iBT: Writing (24/30); Speaking (22/30); Reading (22/30); Listening (20/30), for a total of 88/120 (applicants must have the minimum score in each test as well as the minimum overall score), or (3) IELTS: 7.0 (academic module overall band score), or (4) PTE Academics: 65.

KEY DATES & DEADLINES
- Application due: February 1st for September admission.
- Notification of acceptance: Normally 4 weeks after the full application has been received.

Before you start your application, please review the Graduate studies application process.

What about FUNDING?

M.Sc. students in Geological Sciences receive minimum funding of $21,000 per year. This basic funding package includes teaching assistantships.

Apply for external funding from OGS, NSERC and other sources. Queen's will automatically issue a one time $5,000 top-up to Masters winners of federal government tri-council awards. For more information, see the School of Graduate Studies' information on awards and scholarships.