# Geological Sciences PhD Map

Applying to and Navigating Graduate Studies

GRAD MAP FOR PhD STUDENTS



### 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 PhD experience in geology at Queen's has been a key step in my academic career. It has been a meaningful and rewarding experience, allowing me to achieve my inner goals, besides allowing me to be in contact with a great team of experts in the field"

- Tassiane Junquiera, PhD

### Why QUEEN'S?

As a PhD 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 the major specialization areas in geological science.

Students are able to work in firstrate 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

### **Program STRUCTURE**

PhD (4 years): Thesis. The department has no minimum formal course requirement (beyond the MSc program requirements).

### **RESEARCH Areas**

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

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

Visit the Geological Sciences Department 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 them and tell them about your interest in graduate work and related experience. This is also an opportunity for you to find out if the faculty member is accepting new graduate students to supervise.





**GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS** 

queensu.ca/grad-postdoc

# Geological Sciences PhD Map

DOCTOR OF PHILOSOPHY (PhD)

YEAR I



**Knowledge & Workplace** 

A graduate degree in Geological

and versatile skills, such as:

Sciences can equip you with valuable

Knowledge and technical skills

Information management:

competing demands

act on conclusions

Perseverance

Creativity and innovation

collaborative worker

and cultural sensitivity

• Effective communication skills in

large amounts of information

Project management: develop

ideas, gather information, analyze,

• Independence and experience as a

Awareness, an understanding of

responsibility, responsible research,

sound ethical practices, social

· Professionalism in all aspects of

Leadership: initiative and vision

leading people and discussion

work, research, and interactions

critically appraise findings, draw and

multiple forms for diverse audiences

prioritize, organize, and synthesize

**Time management**: Meet deadlines and manage responsibilities despite

# ACHIEVE YOUR ACADEMIC GOALS MAXIMIZE RESEARCH IMPACT

### Key priorities include your relationship with your supervisor, forming your committee, coursework, field exams, and language exam.

- Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/ occupational goals, timelines, and any required accommodation plans.
- Look to Student Academic Success Services for a variety of supports.

### YEAR II YEAR III

- Priorities include completing your comprehensive examination and pursuing substantive research.
- Write and defend your thesis proposal
- Find your way through the academic process with the help of School of Graduate Studies and Postdoctoral Affairs (SGSPA) professional development and the SGSPA website.
- Set up regular meetings with your supervisor to discuss progress and obstacles to timely completion.
- Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGSPA writing camps, like Dissertation Boot Camp.
- Use conference presentations to create, discuss, and explore ways to disseminate research findings.
- Begin discussion of potential thesis defence examiners.

### YEAR IV & TRANSITIONING

- Plan date of thesis submission for examination.
- Present your research at conferences and work with your supervisor to prepare for defence.
- Review submission and examination guidelines.
- Secure necessary oral defence accommodations.

- Think about audiences for your research.
- Complete CORE online module on research ethics if doing research regarding sensitive topics.
- · Apply to SSHRC, OGS, and other funding.
- Attend conferences in your field.

- · Attend or present at a graduate conference.
- Expand your research audience through social media such as Twitter or a blog.
- Apply for the Graduate Dean's Travel Grant for Doctoral Field Research.
- Continue to present at conferences.
- Consider participating in the 3 Minute Thesis (3MT) or GRADflix competition.
- Contact the Queen's Media Centre for guidance on speaking to news outlets about your work.
   List yourself on the Arts and Science University Research website.
- with community partners such as the International Conference on Geology and Geoscience.

· Continue to attend conferences and

connect with scholars in your field and

• Continue public outreach through social media and the Queen's Media Centre.

### BUILD SKILLS AND EXPERIENCE

- Serve on departmental, faculty, or university committees. Talk to the Joliffe Club (graduate student society) for tips on getting involved.
- Consider positions in student services, the SGPS, or media outlets like the Queen's Journal, CFRC, and the SGSPA Blog. Look in the AMS Clubs Directory.
- Use a Teaching Assistant or Research Assistant position to develop your skills and experience.
- Hone skills for non-academic employment by continuing involvement on committees and in community.
- Start keeping an eportfolio of your skills, experiences, and competencies.
- For help with teaching, get support from the Centre for Teaching and Learning. Enrol in SGS902 or the PUTL Certificate for more professional development in teaching and learning.
- Begin teaching as a departmental Teaching Fellow.
- Investigate internships from MITACS and other sources. Find opportunities for extra training through CTL, SGSPA professional development, MITACS, or other sources to boost your skills.
- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and Four Directions.

Do some targeted networking with people

LinkedIn, the Queen's Alumni Association,

Get help from a Career Services workshop.

professional associations, and at conferences.

working in careers of interest, through

 Practice articulating the skills you have been developing in settings outside the university, such as casual conversation, networking, and interviews. Get help from a Career Services workshop.

Consider joining professional associations

like the Geological Association of Canada.

Join groups on LinkedIn reflecting specific

careers or topics of interest.

### Career Possibilities

A PhD in Geological Sciences can take your career in many directions. In Canada, less than 40% of all PhDs will work in post-secondary education – the majority will work in industry, government, or non-profits.

Graduates from the Geological Sciences
PhD program have found careers in:

- Academia and research
- Environment assessment
- Mineral and oil exploration
- Mining and hydrocarbon extraction
- Policy analysis
- Protection and rehabilitation
- Resource Management
- Surface and underground construction

Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

### ENGAGE WITH YOUR COMMUNITY

- Consider volunteering with different local community organizations, such as Martha's Table, or Loving Spoonful.
- Connect to broader communities of engineers by joining an Engineering Society Design Team.
- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- Consider signing up for the PhD-Community Initiative program run by the SGSPA.
- Participate in hiring committees and attend job talks. Research academic careers of interest. Craft your CV and job application materials.
- Start focusing on non-academic areas of interest. Research organizations of interest and start putting together your resume for potential positions of interest.
- Find impactful work that aligns with your values using the Queen's Career Guide to the UN Sustainable Development Goals.
- Build connections with faculty outside of your department. Pursue interviews for faculty positions and apply for post-doc fellowships and positions.
- Apply to jobs or make plans for other adventures. Get help from Career Services with job searching, resumes, and interviews.
- If considering jobs abroad, research possible immigration regulations. If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

### LAUNCH YOUR CAREER

- Finding a career fit starts with knowing yourself.
   Take a Career Services workshop or meet with a career educator and coach for help.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites.
- Start building your teaching portfolio including student evaluations, and seeking mentorship.
- Explore different careers of interest by using LinkedIn to connect with Queen's alumni. For more information check out Career Cruising.
- Investigate requirements for professional positions or other opportunities related to careers of interest.

### How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. To make your own custom map, use the My Grad Map tool: <a href="mailto:careers.queensu.ca/gradmaps">careers.queensu.ca/gradmaps</a>.

## Graduate Studies FAQs

### How do I make the most of my time at Queen's?

Use the Grad Map to plan for success in five overlapping areas of your career and academic life. Everyone's journey is different - the ideas on the maps are just suggestions to help you explore possibilities. For more support with your professional development, take advantage of the SGSPA professional development framework and the new Professional Development Plan (PDP) process to set customized goals to help you get career ready when you graduate.

### Where can I get help?

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming environment offers the programs and services you need to be successful, both academically and personally. Check out the SGSPA website for available resources.

### What is the community like?

At Queen's, graduate students from all disciplines learn and discover in a closeknit intellectual community. You will find friends, peers and support among the graduate students enrolled in Queen's more than 130 graduate programs within 50+ departments & research centres. With the world's best scholars, prize-winning professional development opportunities, excellent funding packages and life in the affordable, historic waterfront city of Kingston, Queen's offers a wonderful environment for graduate studies. Queen's is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown with its shopping, dining and waterfront. For more about Kingston's history and culture, see Queen's University's Discover Kingston page.

# **Application FAQs**

### What do I need to know to APPLY?

#### **ACADEMIC REQUIREMENTS**

- MSc in Geological Sciences or Geological Engineering, Mining Engineering, or Civil Engineering are acceptable.
- Grade requirements: minimum 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 following minimum scores are required: (1) TOEFL iBT: Writing (24/30); Speaking (22/30); Reading (22/30); Listening (20/30). Applicants must have the minimum score in each test as well as the minimum overall score, or (2) IELTS: 7.0 (academic module overall band score and a 7.0 for each test band), or (3) PTE Academics: 65, or (4) CAEL CE -70 (minimum overall score).

#### **KEY DATES & DEADLINES**

- Application deadline: February 1 for September submissions.
- Notification of acceptance: 4 weeks after the full application has been received.

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

### What about FUNDING?

The current minimum funding guarantee for Geological Sciences PhD students is \$23,000 per year for domestic students and \$30,000 for international students throughout years 1-4. Research Assistantships are in consultation with the student's supervisor.

We encourage all students to apply for external funding from OGS, NSERC, and other sources. For more information, see the School of Graduate Studies and Postdoctoral Affairs' information on awards and scholarships.



