Why GRADUATE STUDIES in CIVIL ENGINEERING?

As a PhD student in the field of Civil Engineering, you can play a vital role in future developments in such areas as rock mechanics, design of foundations, water quality, sediment transportation, pipeline flow, construction and rehabilitation of structures, and many other areas. Civil Engineering has a wide range of applications that contribute to modern life and its infrastructure.

Graduate students and their work are an important part of an ongoing research process that provides the community with ways of understanding natural, cultural, imaginative, social and technological phenomena. Check out whygradstudies.ca for more reasons to choose graduate studies in engineering.

Why QUEEN’S?

As a PhD student in Civil Engineering at Queen’s 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 Civil Engineering.

The Queen’s graduate programs in Civil Engineering are home to some of the finest minds in the fields of civil and environmental engineering. Students have the chance to study engineering in an environment where multidisciplinary research and activities are encouraged and facilitated. Research activity in the Department is generally classified under two fields: Civil Engineering Environment and Civil Engineering Infrastructure.

The Civil Engineering Department’s objective is to provide a broadly-based education in civil engineering which is intrinsically supported by world-class research in the areas of Structural, Geotechnical, Hydrotechnical, and Environmental Engineering.

Program STRUCTURE

PhD (4 years): 4 graduate term length courses, research, comprehensive oral examination and a thesis.

RESEARCH Areas

- Geotechnical Engineering
- Environmental Engineering
- Hydrotechnical Engineering
- Structural Engineering

Visit the Civil Engineering website to read about research areas and learn more about faculty members’ research specialization. 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.

We suggest that you review the specific research projects currently being investigated by faculty members to identify a potential supervisor. Please note, however, that contacting a faculty member does not guarantee acceptance and you will need to submit your full application in order to be considered.
**Civil Engineering PhD MAP**

**DOCTOR OF PHILOSOPHY (PHD)**

**YEAR I**
- **ACQUIRE YOUR ACADEMIC GOALS**
  - Key priorities include forming your committee, coursework, discussing direction of your thesis research, and beginning your research.
  - 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.
  - Complete safety training.

**MAXIMIZE RESEARCH IMPACT**
- Think about audiences for your research.
- Complete the **ROMEO online module** on research ethics if doing research with living people or sensitive topics.
- Apply to NSERC, OGS, and other funding sources.
- Attend conferences in your field, based on supervisor advising.

**BUILD SKILLS AND EXPERIENCE**
- Serve on departmental, faculty or university committees. Talk to the President of **CEGSA** for tips on getting involved.
- Consider positions in student services, the **SGS** or media outlets like the **Queen's Journal**, **CFRG**, and the **SGS Blog**. Look in the **AMS Club Directory**.
- Use a **Teaching Assistant or Research Assistant** position to develop your skills and experience.

**ENGAGE WITH YOUR COMMUNITY**
- Consider volunteering with different community organizations.
- Connect to broader communities of engineers by joining one of the **Engineering Society's Design Teams**.
- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.

**LAUNCH YOUR CAREER**
- Finding career fit starts with knowing yourself. Take a **Career Services career planning workshop** or meet with a career counselor for help. Check out books like *What Color Is Your Parachute?* for advice on various career options.
- Start reading publications like **University Affairs**, the **Chronicle of Higher Education**, and the **Queen's Alumni Association**. Browse non-academic labour market websites.
- Stay on the lookout for special events like **Graduate Student Career Forum** to explore your career pathways.
- Start building your teaching portfolio including student evaluations, and seeking mentorship.
- Explore different careers of interest by reading **alumni profiles** on the SGS website, and using **QueensConnect**. Consider networking with Queen's alumni, or find alumni in various careers through **Ask an Alum**. For more information check out **Career Chat**.
- Investigate requirements for professional positions or other opportunities related to careers of interest.

**YEAR II**
- **ACQUIRE YOUR ACADEMIC GOALS**
  - Priorities include completing your comprehensive examination and pursuing substantive research.
  - Set up regular meetings with your supervisor to discuss progress and obstacles to timely completion.
  - Find your way through the academic process with the help of **Expanding Horizons** and the **SGS Habitats**.
  - Seek experiential/professional development opportunities.

**MAXIMIZE RESEARCH IMPACT**
- Present your work at graduate conferences through professional associations, or topic conferences.
- Expand your research audience through social media such as Twitter or a blog.
- Consider publishing elements of your research. Learn from the **Expanding Horizons** **Publishing workshop**.

**BUILD 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**. Enroll in **SGS901** or the **P3T Certificate** for more professional development in teaching and learning.

**ENGAGE WITH YOUR COMMUNITY**
- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.

**YEAR III**
- **ACQUIRE YOUR ACADEMIC GOALS**
  - Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the **SGS: Dissertation Boot Camp** or **Dissertation on the Lake**.
  - Use conference presentations to create, discuss, and explore ways to disseminate research findings. Learn from the **Expanding Horizons** **Publishing workshop**.
  - Begin discussion of potential thesis defence examiners.

**MAXIMIZE RESEARCH IMPACT**
- Continue to present at conferences.
- Continue the 1 Min Thesis (1MT) competition.
- Contact the **Queen's Media Centre** for guidance on speaking to news outlets about your work.
- Consider putting an article in **The Conversation**.

**BUILD SKILLS AND EXPERIENCE**
- Find opportunities for extra training through CTE, Expanding Horizons, Mitacs, or other sources to boost your skills. Investigate internships from **Mitacs** and other sources.
- Prepare for work or studies in a multi-cultural environment by taking the **QUIC and Four Directions Aboriginal Student Centre's Training Certificate**.

**ENGAGE WITH YOUR COMMUNITY**
- Do some targeted networking with people working in careers of interest, through **QueensConnect**. Contact professional organizations and start putting together your industry resume and begin your job search plan.

**YEAR IV & TRANSITIONING**
- **Plan date of thesis submission for examination.**
- Present your research to graduate students and faculty at conferences and work with supervisor to prepare for defence.
- Review submission and examination guidelines.
- Secure necessary oral defence accommodations.
- Discuss career pathways, references letters, and publication options with your supervisor.

**WHAT WILL I LEARN?**
- A graduate degree in Civil Engineering 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: prioritize, organize and synthesize 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 and 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 PhD in Civil Engineering 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.
  - Academia and Research
  - Consulting
  - Public sector
  - Manufacturing
  - Policy and Governance
  - Civil Engineering in the public domain
  - Law

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

*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.*

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

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
- Master’s degree in Civil Engineering. Applicants with a Master’s degree in a cognate science may be admitted.

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: 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 deadline: March 1 to qualify for internal funding.
- Notification of acceptance: 2-3 months after the full application has been received.

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

What about FUNDING?

The level of financial support consequently varies among graduate students in the Department, with a guaranteed minimum level of $18,000. As part of the minimum funding package, you may serve as a Teaching or Research Assistant.

We encourage all students to apply for external funding from OGS, NSERC and other sources. Queen’s will automatically issue a $10,000 award to incoming PhD students who have won federal government tri-council awards. For more information, see the School of Graduate Studies’ information on awards and scholarships or see what awards are offered through the Civil Engineering Department.

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DEPARTMENT OF CIVIL ENGINEERING
Debbie Ritchie, Graduate Assistant
(613) 533-6000 ext. 79359
debbie.ritchie@queensu.ca
civil.queensu.ca/graduate-studies