Graduate Studies FAQs

How do I use this map?

Whether you are considering or have embarked on graduate studies at Queen’s, use this map to plan for success in five overlapping areas of your career and academic life. The map helps you explore possibilities, set goals and track your individual accomplishments. Everyone’s journey is different - the guide offers options for finding your way at Queen’s and setting the foundation for your future. To make your own customized map, use the online My Grad Map tool.

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 SGS HABITAT for available resources.

What is the community like?

At Queen’s, graduate students from all disciplines learn and discover in a close-knit 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. The level of financial support consequently varies among graduate students in the Department, with a guaranteed minimum level of $25,000 (Masters and PhD) for 2016-2017. As part of the minimum funding package, you may serve as a Teaching Assistant for at least one term per year.

We encourage all students to apply for external funding from OGS, SSHRC 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.

Application FAQs

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
- Master of Applied Science or Master of Science.
- Grade requirements: minimum cumulative average of 84+, with a minimum of 77% in last year of study.

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: There is a constant intake so there is no set deadline for application. If you are international, we recommend that you have completed your application at least 4 months ahead of your admission cycle.

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

What about FUNDING?

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Chemical Engineering PhD Map

Why GRADUATE STUDIES IN CHEMICAL ENGINEERING?

As a PhD student in the field of Chemical Engineering, you can play a vital role in future developments in such areas as biological conversion, pollution degradation, tissue engineering, process control and optimization, (bio)chemical sensing, nanocomposites, and many of other areas. Chemical Engineering has a wide range of applications that contribute to modern life and its technologies.

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Queen’s University is one of Canada’s leading research-intensive universities, with over $14 million in sponsored research funding and almost $5 million in revenues from technology transfer. It consistently ranks as one of the top three medical/dental universities in Canada and offers an unparalleled environment to facilitate academic development. Among Queen’s goals is to attract and retain students with outstanding potential from across Canada and around the world.

RESEARCH Areas
- Biochemical Engineering
- Macromolecular Science and Technology
- Process Analytics, Optimization, and Control
- Microfluidics, Colloids, and Biosensors
- Sustainable energy sources, processes, products, and environmental remediation

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.

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Visit the Chemical Engineering Department website to read faculty profiles and learn more about faculty members’ research areas.

Chemical Engineering Department offers opportunities to collaborate with scientists in the Human Mobility Research Centre and Computational Science and Engineering, as well as with co-supervising faculty in other departments.

Program STRUCTURE

PhD (4 years): course work, research thesis, comprehensive exam, and two seminars.

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### Chemical Engineering PhD MAP *

**DOCTOR OF PHILOSOPHY (PhD)**

#### YEAR I

**ACHIEVE YOUR ACADEMIC GOALS**
- Key priorities include 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, timeline, and any required accommodation plans.
- Look to Student Academic Success Services for a variety of supports.
- Attend the Departmental Speaker Series (CHEE 897).

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

**BUILD SKILLS AND EXPERIENCE**
- Serve on departmental, faculty or university committees. Talk to the Graduate Student Association (CEGSA) about getting involved.
- Consider positions in student services, the SGPS or media outlets like the Queen’s Journal (CFRC), and the SGPS Blog. Look in the AMS Clubs 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.

**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 *So What Are You Going to Do With That?* 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 Graduate Student Career Week to explore your career pathways.

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

#### YEAR II

**ACHIEVE YOUR ACADEMIC GOALS**
- Write and defend your thesis proposal.
- Embark on your 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 help from Student Academic Success Services.
- Seek experiential/professional development opportunities.

**MAXIMIZE RESEARCH IMPACT**
- Present your work at graduate conferences.
- Expand your research audience through social media.
- Consider publishing elements of your research. Learn from the Expanding Horizons Publishing workshop.
- Apply for the Graduate Dean’s Travel Grant for Doctoral Field Research.

**BUILD SKILLS AND EXPERIENCE**
- Consider professional positions like the Queen’s Alumni Association (QAA), or meet with a career counselor for help.
- Start building your teaching portfolio including student evaluations, responsible research and communication skills.
- Help you plan your career.

**ENGAGE WITH YOUR COMMUNITY**
- Participation in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups like Material Matters.
- Participate in and present your research in careers of interest, through the Queen’s Alumni Association (QAA) or the Putl certificate.
- Do some targeted networking with people working in careers of interest, through QAA's alumni network.
- Consider joining professional associations like the Canadian Society for Chemical Engineering.
- Consider taking a Masters course or looking for post-doc positions.
- Build connections with faculty outside of your department. Pursue interviews for faculty positions and apply for post-doc fellowships and positions.
- Apply to work as a teaching assistant or research assistant. Get help from Career Services with job searching, resumes, or internships.
- If considering a PhD abroad, research possible immigration regulations. If you are an international student interested in staying in Canada, consider working with an International Student Advisor.

#### YEAR III

**ACHIEVE 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 your dissertation findings. Learn from the Expanding Horizons Publishing workshop.
- Consider volunteering with different community organizations.

**MAXIMIZE RESEARCH IMPACT**
- Continue to present at conferences.
- Consider participating in the 3 Minute Thesis (3MT™) competition.
- Contact the Queen’s Media Centre for guidance on speaking to news outlets about your work. List yourself in the Faculty of Engineering and Applied Science Research website.

**BUILD SKILLS AND EXPERIENCE**
- Find opportunities for extra training through CTL, Expanding Horizons, Mitacs, or other sources to boost your skills.
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- Prepare for work or study in a multi-cultural environment by taking ROMEO’s Intercultural Competency Certificate.

**ENGAGE WITH YOUR COMMUNITY**
- Some options include: 1. A Masters course or looking for post-doc positions. 2. Building connections with faculty outside of your department. Pursue interviews for faculty positions and apply for post-doc fellowships and positions. 3. Consider volunteering with different community organizations.
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**LAUNCH YOUR CAREER**
- Participate in hiring committees and attend job talks. Research academic careers of interest. Craft your CV and job application material.
- Start focusing on non-academic areas of interest. Research organizations of interest and start putting together your industry resume and begin your job search plan.
- Check out the free online modules at MyGradSkills to help you plan your career.

**YEAR IV & TRANSITIONING**
- Plan date of thesis submission for examination.
- Present your research to graduate Chem Eng students and faculty or at conferences and work with supervisor to prepare for defence.
- Review submission and examination guidelines.
- Secure necessary oral defence accommodations.
- Connect with other grad students or alumni in your area of research.
- Continue public outreach through social media and the Queen’s Media Centre.

**WHAT WILL I LEARN?**

A graduate degree in Chemical Engineering can equip you with valuable and versatile skills, such as:
- Knowledge and technical skills
- Effective communication skills
- Multiple forms for diverse audiences
- Time management: Meet deadlines and manage responsibilities despite competing demands
- Project management: Develop ideas, gather information, analyze, and appraise findings, draw and act on conclusions
- Creativity and innovation
- Persistence
- 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 PhD in Chemical 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. Graduates from the Chemical Engineering PhD program have found careers in:
- Biochemical Engineering
- Biomedical Engineering
- Environmental Engineering
- Fuel Cells
- Macromolecular Processes and Products
- Microfluidics & Biosensors
- Process Systems Engineering

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

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