

Chemical Engineering MAsc Map

Applying to and Navigating Graduate Studies

GRAD MAP FOR MASc STUDENTS 

Why GRADUATE STUDIES in CHEMICAL ENGINEERING?

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

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.

Why QUEEN'S?

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/doctoral universities in Canada

"I enjoyed the interaction between the students and faculty and our industrial partners. It was like a built-in work experience while you're in school, [giving me] real world experience that I can add to my résumé."

– Adegboyega Babasola, MSc



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.

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

The Chemical Engineering Department has links to a number of multi-disciplinary centres at Queen's, including: the Centre for Health Innovation, Green Centre Canada, Innovation Park, the Queen's Centre for Energy and Power Electronics Research (ePOWER), and the Queen's Innovation Connector.

Program STRUCTURE

MAsc (approximately 2 years): 4 courses, seminar, and thesis.

RESEARCH Areas

- Bioengineering
- Clean Energy and Sustainable Environment
- Materials and Interfaces
- Process Systems Engineering and Systems Biology

We suggest that you review the specific research interests of individual 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.



GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS

queensu.ca/grad-postdoc

Chemical Engineering MAsc Map

MASTER OF APPLIED SCIENCE (MASc)



GETTING STARTED

INTERMEDIATE STAGE

WRAPPING UP

ACHIEVE YOUR ACADEMIC GOALS

- Start with key priorities like developing your relationship with your supervisor, forming your committee, and doing your coursework.
- Consider how your course papers can contribute to your cognate essay or thesis.
- Find your way through the academic process with help from the department Grad Chair and the School of Graduate Studies and Postdoctoral Affairs (SGSPA) website.

- Complete your coursework; begin to research and write your cognate essay or thesis.
- Attend the Departmental Speaker Series (CHEE 897).
- Complete the Academic Integrity Tutorial.

- Present your research to Chemical Engineering graduate students and faculty.
- Complete and defend your Master's research thesis.

MAXIMIZE RESEARCH IMPACT

- Start to think about the audiences for your research.
- If you meet the criteria, apply for NSERC and OGS funding.

- Attend or present at a graduate conference.
- Consider participating in the 3 Minute Thesis (3MT) or GRADflix competition.
- Expand your research audience through social media such as Twitter or a blog.
- Consider being interviewed on the SGSPA radio show Grad Chat to talk about your research.

- Consider publication options for your research.
- Attend a major conference in your field, such as the Canadian Chemical Engineering Conference. Speak with your supervisor about options for conferences in your area of research.
- Consider putting an article in The Conversation.

BUILD SKILLS AND EXPERIENCE

- 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 for more ideas.
- Serve on departmental or university committees. Talk to the Chemical Engineering Graduate Student Association (CEGSA) to get involved.

- Start keeping 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. Enrol in SGS902 or the PUTL Certificate for more professional development in teaching and learning.

- 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.
- Investigate internships from MITACS and other sources.
- Check out opportunities for extra training through CTL, School of Graduate Studies and Postdoctoral Affairs professional development, MITACS, or other sources to boost your skills.

ENGAGE WITH YOUR COMMUNITY

- Explore how you can connect with your community through experiential opportunities on- and off-campus.
- Consider volunteering with different community organizations, such as Queen's Chemical Engineering Graduate Student Association (CEGSA).
- Engage with the Chemical Engineering department on X.

- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and Four Directions Indigenous Student Centre.
- If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

- Do some targeted networking with people working in careers of interest, through Queen's Connects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.
- Consider joining professional associations like the Canadian Society for Chemical Engineers.

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 educator and coach.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites.
- Check admission test deadlines if needed for further studies.

- Explore different careers of interest by using Queens Connects on LinkedIn to connect with Queen's alumni. Check out Career Cruising for more information.
- If you are considering a PhD, explore programs of interest reach out to faculty, and apply to PhD programs and external scholarships.

- Participate in hiring committees and attend job talks. Start focusing on areas of interest. Research organizations of interest and start putting together your CV or resume for potential positions of interest. Get help from Career Services with job searching, resumes, and interviews.

Knowledge & Workplace Skills

A graduate degree in Chemical Engineering will empower you with:

- 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

Career Possibilities

A Master's degree in Chemical Engineering can take your career in many directions. Many of our MASc students choose to continue their academic inquiry with a PhD. Our Master's students are equipped with a strong foundation for careers in:

- Academia
- Consulting
- Finance
- Manufacturing
- Petroleum
- Pharmaceuticals

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

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: careers.queensu.ca/gradmaps.

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 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. 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

- Bachelor's degree in Engineering or other relevant program.
- Grade requirements: minimum B+ (77%) 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 due: There is a constant intake with no set deadline. It is recommended that the application be completed at least 4 months ahead of the desired admission cycle, especially for international students.
- Notification of acceptance: Rolling acceptances for September, January, and May academic cycles.

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

What about FUNDING?

Chemical Engineering MSc students have a minimum funding package of \$27,010 for 2024-2025. As part of the minimum funding package, you may serve as a Teaching Assistant for at least one term per year.

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



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