Why GRADUATE STUDIES in CHEMISTRY?

A degree from Queen's Department of Chemistry is highly regarded and an important consideration in today's competitive science and technology job market. Our new $56 million state-of-the-art building is home to the Nuclear Magnetic Resonance facility and its eight high-field instruments, an on-site Mass Spec facility with four mass spectrometers, an X-ray diffractometer, a CFI-funded facility for materials characterization and more unique equipment in faculty labs.

Why QUEEN'S?

Queen's University and the Department of Chemistry enjoy international reputations. With 27 award-winning faculty, and over 130 graduate students, post-doctoral fellows and research associates performing cutting-edge research in a multitude of areas, you will find this an exciting place to do research. Research is performed in the areas of analytical, inorganic, organic, physical, polymer, and theoretical chemistry. Research in these areas ranges from the most fundamental to very applied.

“My years at Queen’s have left me with nothing but good memories. It was a great experience, a great city and a great education. It was a solid foundation to launch a career.”
– Will N. Rogers, PhD

Program STRUCTURE

PhD (4 years): course work, research thesis, comprehensive oral exam, and research seminar.

RESEARCH Areas

- Analytical/Environmental
- Biological
- Inorganic/Organometallic
- Materials/Polymer
- Organic
- Physical
- Theoretical/Computational

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

Visit the Chemistry 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 him/her 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.
ACHIEVE YOUR ACADEMIC GOALS

- Key priorities include forming your committee and coursework.
- 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 WHMIS training.

MAXIMIZE YOUR 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, OGS, and other funding opportunities.
- Attend conferences in your field.

BUILD YOUR SKILLS AND EXPERIENCE

- Serve on departmental, faculty or university committees. Talk to the Queen's Graduate Chemistry Society about getting involved.
- Consider positions in student services, the SGS, or media outlets like the Queen’s Journal, CFRC, and the SGS 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 such as Science Rendezvous.
- Take part in events put on by the Queen’s Chemistry Innovation Council.
- Consider judging local and regional science fairs.

LAUNCH YOUR CAREER

- Finding career fit starts with knowing yourself. Take a Career Services career planning workshop or meet with a career counsellor for help. Check out books like So What Are You Going to Do With That? or Planning a Scientific Career in Industry from the Career Resource Area 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 Forums to explore your career pathways.

YEAR I

- Write your PhD candidacy exam 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 the help of Expanding Horizons.

YEAR II

- 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.

YEAR III

- Plan date of thesis submission for examination.
- Present your research to graduate students and faculty or 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.

YEAR IV & TRANSITIONING

- Complete the Annual Research Progress Report (1/2).
- Continue to attend conferences and connect with scholars in your field and with community partners.
- Continue public outreach through social media and the Queen’s Media Centre.
- 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 Chemistry can equip you with valuable and versatile skills, such as:
- Knowledge and Technical Skills
  - Chemical synthesis
  - Spectroscopic characterization
  - 3D printing/rapid prototyping
  - Mass spectrometry analysis
  - Experimental design
  - Molecular modelling
- Communications
  - Manuscript writing
  - Conference oral presentation
  - Poster presentation (graphic)
  - Creativity and Innovation
  - Scientific patent writing/patent protection
  - Business skills in chemical industry
- Leadership
  - Grant writing, problem solving
- Engagement
  - Event planning and coordination
- Research with international experts/partners

WHERE CAN I GO?

A PhD in Chemistry 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.

PhD Map for Chemistry

*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!
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. 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 Chemistry of equivalent, or direct entry from BSc for exceptional candidates with extensive research experience.
- Grade requirements: minimum upper second class standing (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: 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 to be considered for awards. Later applications are accepted. International students are encouraged to apply early.
- Notification of acceptance: Accepted students are notified as the applications are reviewed.

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

What about FUNDING?

The minimum funding guarantee for Chemistry PhD students is $25,500 per year, throughout years 1-4. The funding package may be comprised of graduate awards, research assistantships, and teaching assistantships.

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.