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 $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
- Chemistry Education
- 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 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.
The map just offers suggestions – you don’t have to do it all! To make your own custom map, use the My Major Map tool.

To use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics, consider:

**YEAR I**
- 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 support.
- Complete WHMIS safety training.

**YEAR II**
- Complete the Annual Research Progress Report (1/3) and meet with supervision committee.
- 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 School of Graduate Studies and Postdoctoral Affairs Professional Development.

**YEAR III**
- Consider volunteering with different community organizations such as Science Rendezvous.
- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- Consider becoming an executive member of the Queen’s Chemistry Innovation Council, Let’s Talk Science, or Women in Science & Engineering.
- Start building your teaching portfolio including student evaluations, and seeking mentorship.
- Explore different careers of interest by using Queen’s Connects on LinkedIn, the Queen’s Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.
- 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.
- Connect with Queen’s Chemistry Innovation Council Members and chemistry alumni.

**YEAR IV**
- 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.

**WHAT WILL I LEARN?**
A graduate degree in Chemistry can equip you with:
- 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
- Grant writing, problem solving
- Leadership and Collaboration
- Committee participation
- Supervision of junior researchers
- Industrial engagement
- Research with international experts/partners

WHERE CAN I GO?
A PhD in Chemistry can take you 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.

- Quality Control Chemist
- Postdoctoral Fellowship
- Forensic Scientist
- Environmental Law
- Patent Law
- Food Scientist
- Biochemistry
- Consumer Protection
- Pharmaceutical Chemist
- Materials Scientist
- Petroleum Engineer
- Chemical Education
- (University, College, Secondary, Primary)

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 academic.

The map just offers suggestions – you don’t have to do it all! To make your own custom map, use the My Major Map tool.
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 Individual Development Plan (IDP) 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
- 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
- Two official transcripts for all post-secondary studies.
- Two letters of recommendation (academic)
- Curriculum Vitae
- Correspond with potential supervisors
- 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: February 1st (to be considered for awards)
- Notification of acceptance: Students are accepted on an ongoing basis as their completed applications 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 $27,600 per year, throughout years 1-4. The funding package may be comprised of graduate awards, graduate research fellowships, and research and/or teaching assistantships. Many students are awarded scholarships and awards, which allow them to exceed this level of income.

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