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 25 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 safety training.

- 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 the Expanding Horizons.
- Attend or present at a graduate conference such as: Canadian Chemistry Conference and Exhibition.

**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, OGS, and other funding.
- Attend conferences in your field.

- Attend or present at a graduate conference such as the Canadian Chemistry Conference and Exhibition.
- Expand your research audience through social media such as Twitter or a blog.
- Apply for the Graduate Dean’s Travel Grant for Doctoral Field Research.

**BUILD 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 SOS, 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.

- Homeskills for non-academic employment by continuing involvement on committees and in community.
- Start keeping an epooll of your skills, experiences and competencies.
- For help with teaching, get support from the Centre for Teaching and Learning (ENTL), in the SGS901 or the PUTL certificate for more professional development in teaching and learning.

**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.

- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups like Material Matters.

**LAUNCH YOUR CAREER**

- Finding career fit starts with knowing yourself: Take a Career Services planning workshop or meet with a career counselor 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 Week 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 QueenConnects on LinkedIn to connect with Queen’s alumni and alumni in various careers through Ask an Alumni. For more information check out Career Cruising.
- Investigate requirements for professional positions or other opportunities related to careers of interest.

**YEAR I**

- Continue to meet regularly with your supervisor, review research progress, and write your dissertation.
- 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 defense examiners.
- Complete the Annual Research Progress Report (1/2).

**YEAR II**

- 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.
- Complete the Annual Research Progress Report (2/2).

**YEAR III**

- Continue to attend 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 on the Arts and Science University Research website.

**YEAR IV & TRANSITIONING**

- 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.

**WHAT WILL I LEARN?**

A graduate degree in Chemistry 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
- Leadership: initiative and vision
- 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

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.

- Research chemist
- Research engineer
- Professor
- Technical leader
- IOP Analyst
- Professor

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

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

* 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.
**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 $23,000 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 winners of federal government tri-council awards for PhD studies. For more information, see the School of Graduate Studies’ information on [awards and scholarships](#).