Chemistry MSc Map

Applying to and Navigating Graduate Studies

GRAD MAP FOR MSc STUDENTS

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 26 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. A unique opportunity to obtain dual degrees from Queen's University and the University of Stuttgart, Germany.

"Within the Stuttgart/Queen's double Master's program I had the opportunity to conduct research at two different institutions and make valuable connections."

- Matthias Hermann, MSc

Program STRUCTURE

MSc (2 years): course work and thesis.

Current Queen's undergraduate chemistry students entering their 4th year and have a A- (A minus) average may apply for an Accelerated Masters (https://www.chem.queensu.ca/undergraduate/accelerated-msc-program).

Students who show exceptional promise in their research have the option to promote to the PhD program in their second year.

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.

"A Master's in Chemistry is a versatile degree that has provided me with the analytical and critical thinking skills that are requisite to success in my future career as a lawyer"

- Kasia Donovan, MSc

Queen's UNIVERSITY

GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS

2023-2024

Chemistry MSc Map

MASTER OF SCIENCE (MSc)

Queen's UNIVERSITY

	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. • Complete WHMIS safety training. • Find your way through the academic process with help from departmental and School of Graduate Studies and Postdoctoral Affairs professional development workshops, the department Grad Chair, and the SGSPA website.	• Complete your coursework; begin to research and write your thesis. • Complete your annual Research Progress Reports. • Consider attempting the PhD Candidacy/Comprehensive Exam for promotion to the PhD program.	• Complete and defend your thesis (CHEM 899).
MAXIMIZE RESEARCH IMPACT	• Start to think about the audiences for your research. • If you will be continuing graduate studies, apply for NSERC and OGS funding.	• Consider participating in the 3 Minute Thesis (3MT) competition and attend the weekly seminar series (CHEM 802). • Expand your research audience through social media such as Twitter or a blog. Conduct research at an International Collaborative University (i.e. Stuttgart, Nagoya, Poitiers) • Attend or present at the Queen's Graduate Chemistry Society Symposium	• Consider publication options for your research. • Attend or present at a graduate conference such as the Canadian Chemistry Conference and Exhibition or the American Chemistry Society National Meeting. • Set up a meeting with the School of Graduate Studies and Postdoctoral Affairs to go on Grad Chat to discuss your research interests. • Consider putting an article in The Conversation.
BUILD SKILLS AND EXPERIENCE	• Consider positions in student services, the SGSP, 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, faculty or university committees. • Check out professional development workshops from School of Graduate Studies and Postdoctoral Affairs Professional development.	• 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. • Participate as a graduate representative on a department committee (i.e. Graduate Committee, Appointments Committee, Technical Resource Committee, Health and Safety Committee).	• 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. • 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. • Take advantage of the state-of-the-art research facilities, which feature NMR, mass spectrometry, X-ray diffractometer, a laser lab, and more.
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, museums, and cultural studies groups, such as Science Rendezvous, Let's Talk Science, or Women in Science & Engineering (WISE). • 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. • Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and FDISC. • 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 Queens 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 Chemistry, Queen's Chemistry Innovation Council, or the American Chemical Society.
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. Check out 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 School of Graduate Studies and Postdoctoral Affairs Career Week to explore your career pathways. • 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.

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 modeling

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

- Biochemistry
- Chemical Education (University, College, Secondary/Primary)
- Consumer Protection
- Doctoral Studies
- Environmental Law
- Food Science
- Forensic Science
- Materials Science
- Patent Law
- Petroleum Engineering
- Pharmaceutical Chemistry
- Quality Control Chemistry

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. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the My Grad 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

- 4 year Honour's degree in Chemistry or a related science, including Biochemistry, Chemical Physics, Materials Science, or Chemical Engineering.
- **Grade requirements:** minimum upper second class standing (B+ average).

ADDITIONAL REQUIREMENTS

- Correspond with potential supervisors.
- Two official transcripts for all post-secondary studies
- Two Letters of Recommendation
- Curriculum Vitae
- 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:** While the department accepts applications throughout the year, those students wishing to be considered for awards should apply by March 1st.
- Available Intakes: September, January, and May
- **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?

M.Sc. students in Chemistry receive minimum funding of $27,030 per year. Many students are awarded scholarships and awards, which allow them to exceed this level of income. (Last year's minimum was $26,500 with an average stipend of $28,178)

The funding package may comprise of graduate awards, graduate research fellowships, and research and/or teaching assistantships.

Apply for external funding from OGS, NSERC, and other sources. Queen's will automatically issue a one time $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, or see what awards are offered through the Chemistry Department.

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