

Chemistry MSc Map

Applying to and Navigating Graduate Studies

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. There is also a unique opportunity to obtain dual degrees from Queen's University and the University of Stuttgart, Germany.

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



"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

"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

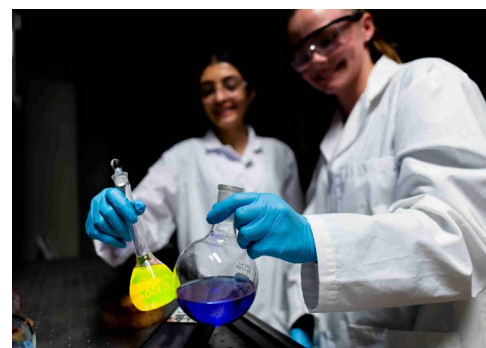
research have the option to promote to the PhD program in their second year.

Research Areas

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

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

Students should contact potential supervisors before applying, to express interest in joining their research groups and to find out if the faculty member is accepting new students to supervise.



Chemistry MSc Map

MASTER OF SCIENCE (MSc)

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.



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 \(SGSPA\) 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 \(3MT\)](#) or [GRADflix](#) competition and attend the weekly seminar series (CHEM 802).
- Expand your research audience through social media 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](#).
- Consider being interviewed on the [SGSPA radio show Grad Chat](#) to talk about your research.
- Consider putting an article in [The Conversation](#).

BUILD SKILLS AND EXPERIENCE

- Consider positions in student services, the [SGSPS](#), 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 [SGSPA 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. 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](#).
- Consider judging local and regional science fairs.

- 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 [Volunteering with QUIC](#) for the English Conversation program.
- 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 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.
- Check admission test deadlines if needed for further studies.

- Explore different careers of interest by using 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.
- Find impactful work that aligns with your values using the [Queen's Career Guide to the UN Sustainable Development Goals](#).

Knowledge & Workplace Skills

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

Career Possibilities

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.

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?

Queen's offers graduate students from every discipline a close-knit intellectual community where they can learn, discover, and build lasting connections. With more than 130 graduate programs across 50+ departments and research centres, students benefit from world-class scholars, prize-winning professional development, generous funding packages, and life in the historic waterfront city of Kingston. The campus sits at the heart of Kingston, just a 10-minute walk from downtown's shops, restaurants, and waterfront, and is deeply integrated with the local community. For more on 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 first language, nor was the language of instruction in undergraduate studies, prospective students must meet English language proficiency requirements in writing, speaking, reading, and listening as part of the application process, and before final acceptance is granted, as per School of Graduate Studies and Postdoctoral Affairs' regulations.

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 currently receive minimum funding of \$29,030 per year. Students who win awards will have a higher stipend. For more information, check the department website: <https://www.chem.queensu.ca/graduate/financial-support> and <https://www.chem.queensu.ca/graduate/awards-scholarships>. 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. For more information on awards and scholarships, consult the School of Graduate Studies and Postdoctoral Affairs' website.

