Why GRADUATE STUDIES in BIOMEDICAL & MOLECULAR SCIENCES?

Graduate students and their work are an important part of an ongoing research process that provides the scientific community with ways of understanding fundamental biomedical and molecular processes underlying normal cellular and microbial processes, organ system function, and human disease. The faculty, staff and trainees in Biomedical and Molecular Sciences are engaged in world-class research and teaching, attracting and mentoring the best students, the finest educators, dedicated support staff, and internationally-competitive researchers. We value curiosity, creativity, commitment, and collegiality.

Why QUEEN’S?

The Biomedical and Molecular Sciences Department at Queen’s provides a cross-disciplinary environment and delivers the programs in a collaborative and integrated manner. This interdisciplinary approach gives candidates access to over 80 faculty members engaged in a broad spectrum of biomedical research, using techniques to address questions concerning single molecules, cellular/microbial function, organ-systems, and whole-animal biology. “DBMS provides graduate trainees the opportunity to conduct novel research in a collaborative, inclusive, and close-knit environment. Faculty promote cross-disciplinary learning by ensuring students are exposed to various scientific themes and cutting edge research techniques.”

– Rylend Mulder, PhD Candidate

Program STRUCTURE

PhD (4 years, full time): Research and comprehensive exam, thesis, and oral defense.

Fields of SPECIALIZATION

- **Biochemistry and Cell Biology**: focuses on understanding the fundamental processes of life and human disease.
- **Experimental Medicine**: employs interdisciplinary methods to explore the processes responsible for both the normal and diseased state.
- **Microbes, Immunity, and Inflammation**: focuses on questions at the cellular and molecular level involving viral and bacterial organisms and the immune system.
- **Reproduction and Developmental Sciences**: spans clinical and basic science, with a focus on fertilization and embryo implantation, perinatal health, women’s health, and more.
- **Therapeutics, Drug Development, and Human Toxicology**: focuses on the effects, both beneficial and deleterious, of chemicals including drugs and environmental contaminants, on human health.

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

Visit the Biomedical and Molecular Sciences website to read faculty profiles, and learn more about faculty members’ research areas and research groups. 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.

See the Biomedical and Molecular Sciences Graduate Student Handbook online for more detailed information about the program.
Biomedical & Molecular Sciences PhD Map*

**YEAR I**
- Key priorities include your relationship with your supervisor, completing required health and safety, animal, human research ethics training and any required coursework, and developing your research proposal.
- Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/occupational goals, timelines, and any required accommodationplans.
- Look to Student Academic Success Services for supports.

**YEAR II**
- Priorities include completing your comprehensive examination and pursuing 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 and SGS websites.
- Complete AODA training in accessible customer service.
- Seek experiential/professional development opportunities.

**YEAR III**
- 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.
- Begin discussion of potential thesis defense examiners.

**YEAR IV & TRANSITIONING**
- 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.

**MAXIMIZE RESEARCH IMPACT**
- Think about audiences for your research.
- Complete CORE online module on research ethics if dividing time with living people or sensitive topics.
- Apply to CHIR, NSERC, OGS, and other funding.
- Attend conferences in your field.

**BUILD SKILLS AND EXPERIENCE**
- Serve on departmental, faculty or university committees. Talk to the graduate representative for tips on getting involved.
- Consider positions in student services, the SGPS, 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 Kingston General Hospital.
- Connect to broader communities of biomedical and molecular science professionals.

**LAUNCH YOUR CAREER**
- Finding a career that fits starts with knowing yourself. Take a Career Services workshop or meet with a career counselor for help. Check out books like 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 to stay on top of important labour market websites.
- Stay on the lookout for special events like Graduate Student Career Week to explore your career pathways.

**WHAT WILL I LEARN?**
A graduate degree in Biomedical and Molecular Sciences can equip you with:
- 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
- Perseverance
- 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 Master's degree in Biomedical & Molecular Sciences 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:
- Health Care
- Pharmaceutical Industry
- Research in Academic and Private Sectors
- Academic, Health Care, Government, Private Sector Administration
- Teaching in Academic Institutions or Private Sector
- Marketing positions in Private Sector
- Educational specialization in Patent Law
- Public Health, Business
- Entrepreneurial Ventures

*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!
Application FAQs

How do I use this map?

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 SGS 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 SGS 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.

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS

- A Master’s degree is normally required for admission to the PhD program. In certain circumstances, direct admission to the PhD program is possible.

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 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: March 1st (To be considered for internal awards). Flexible deadline.
- Notification of acceptance: Pending confirmation of a supervisor.

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

What about FUNDING?

PhD students in Biomedical and Molecular Sciences are offered a minimum funding of $21,000 per year. As part of the basic funding package, you may serve as a Teaching Assistant for at least one term per year.

We encourage all students to apply for external funding from OGS, SSHRC 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’ information on awards and scholarships.