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

ACHIEVE YOUR ACADEMIC GOALS

- 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 accommodation plans.
- Look to Student Academic Success Services for supports.

YEAR I

- 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 website.
- Complete AODA training in accessible customer service.
- Seek experiential/professional development opportunities.

YEAR II

- Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGS Dissertations 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 defence examiners.

YEAR III

- 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.

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.
- Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.
- Plan date of thesis submission for examination.

MAXIMIZE RESEARCH IMPACT

- Think about audiences for your research.
- Complete COR@ online module on research ethics if doing research with living people or sensitive topics.
- Apply to CIHR, NSERC, OGS, and other funding.
- Attend conferences in your field.

BUILD SKILLS AND EXPERIENCE

- Present your work at graduate conferences, through professional associations, or topic conferences.
- 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.
- Consider signing up for the PhD-Community Initiative program run by the SGS.

ENGAGE WITH YOUR COMMUNITY

- Serve on departmental, faculty or university committees. Talk to the graduate representative for tips on getting involved.
- Consider positions in student services, the SGFS, 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.

LAUNCH YOUR CAREER

- Find opportunities for extra training through CTL, Expanding Horizons, Mitacs, or other sources to boost your skills. Investigate internships from Mitacs and other sources.
- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUC and Four Directions Indigenous Student Centre.
- 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.

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, Government, Private Sector Services
  - Teaching in Academic Institutions or Private Sector
  - Marketing positions in Private Sector
  - Educational specialization in Patent Law, Public Health, Business
  - Entrepreneurial Ventures

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.

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Application FAQs

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.