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.

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 him/her 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.

We encourage you to identify an area of research interest and contact a potential supervisor before applying.
### 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 accommodation plans.
- Look to Student Academic Success Services for support.
- **Promises 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 Habitat.
- Complete AODA training in accessible customer service.
- Seek experiential/professional development opportunities.

### YEAR II
- Consider positions in student services, the CIR, NSERC, OGS, and other funding.
- Attend conferences in your field.
- 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.
- Serve on departmental, faculty or university committees.
- Talk to the graduate representatives for tips on getting involved.
- Consider positions in student services, the SGS, or media outlets like the Queen's Journal, CPR, and the SGS Blog.
- Use a Teaching Assistant or Research Assistant position to develop your skills and experience.
- **Hone skills for non-academic employment by continuing involvement on committees and in community.**
- Start keeping an eportfolio of your skills, experiences, and competencies.
- For help with teaching, get support from the Centre for Teaching and Learning (Invol in S59001 or the PUTL certificate for more professional development in teaching and learning).

### YEAR III
- **Continue to meet regularly with your supervisor, review research progress, and write your dissertation.** Check out the SGS Interview Boot Camp or Dissertation on the Lake.
- 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 defence examiners.
- 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.**
- 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 QUE's Intercultural Competency Certificate.

### YEAR IV & TRANSITIONING
- **Plan date of thesis submission for examination.** Present your research to graduate students and faculty at or 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.
- 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 Biomedical and Molecular Sciences 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, 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
- Leadership: initiative and vision leading people and discussion

### WHERE CAN I GO?
A PhD in Biomedical & Molecular Sciences can take your career in many directions. In Canada, less than 40% of all PhDs will work in post-secondary education—at the majority will work in industry, government, or non-profits. The list includes (but is not limited to):
- Health Care (Hospital clinical labs)
- Pharmaceutical companies
- Academic and research labs
- Scientific supply companies
- Administration in academic, health care or government settings
- Teaching positions in academic institutions or the private sector
- Technical positions in academic institutions or the private sector
- Marketing positions in private sector
- Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

**ACHIEVE YOUR ACADEMIC GOALS**

**MAXIMIZE RESEARCH IMPACT**

**BUILD SKILLS AND EXPERIENCE**

**ENGAGE WITH YOUR COMMUNITY**

**LAUNCH YOUR CAREER**

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

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS

• A Master’s degree is normally required for admission to the Ph.D. program. In certain circumstances, direct admission to the Ph.D. 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 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: 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 $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](#).