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 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.
**Biomedical & Molecular Sciences**

**PhD MAP**

**DOCTOR OF PHILOSOPHY (PHD)**

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### 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.*

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### Maximize Research Impact

- *Think about audiences for your research.*
- *Complete ROMEO 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.*

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### Build Skills and Experience

- *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, CFRL, and the SGS Blog. Look in the AMS Clubs Directory.*
- *Use a Teaching Assistant or Research Assistant position to develop your skills and experience.*

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### 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.*

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### Launch Your Career

- *Finding a career that fits starts with knowing yourself. Take a Career Services career planning 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. Browse non-academic labour market websites.*
- *Stay on the lookout for special events like Graduate Student Career Week to explore your career pathways.*

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### 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.*
- *Attend conferences in your field.*

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### Year II

- *Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGS Dissertation Boot Camp.*
- *Use conference presentations to create, discuss, and explore ways to disseminate research findings. Learn from the Expanding Horizons Publishing workshop.*
- *Attend a major conference in your field, such as the Annual Meeting of the Canadian Society for Molecular Biosciences.*

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### Year III

- *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.*

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### 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.*
- *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.*

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### 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, 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
- Leadership: initiative and vision leading people and discussion

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### 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—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

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

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*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.*
Graduate Studies FAQs

How do I use this map?
Whether you are considering or have embarked on graduate studies at Queen's, use this map to plan for success in five overlapping areas of your career and academic life. The map helps you explore possibilities, set goals and track your individual accomplishments. Everyone's journey is different – the guide offers options for finding your way at Queen's and setting the foundation for your future. To make your own customized map, use the online My Grad Map tool.

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 HABITAT 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
• 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 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.