Biomedical & Molecular Sciences PhD Map

Applying to and Navigating Graduate Studies

GRAD MAP FOR PhD STUDENTS

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.

Queen's University GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS

queensu.ca/grad-postdoc

2025-2026

Biomedical & Molecular Sciences PhD Map

DOCTOR OF PHILOSOPHY (PhD)

Queen's University

	YEAR I	YEAR II	YEAR III	YEAR IV & TRANSITIONING
ACHIEVE YOUR ACADEMIC GOALS	• Key priorities include your relationship with your supervisor, completing required health and safety and 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. • Seek experiential/professional development opportunities	• 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 School of Graduate Studies and Postdoctoral Affairs (SGSPA) professional development and the SGSPA website. • Complete AODA training in accessible customer service.	• Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out theSGSPA 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 defence examiners.	• 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 doing research with living people or sensitive topics. • Apply to CIHR, NSERC, OGS, and other funding. • Attend conferences in your field.	• Present your work at graduate conferences, through professional associations, or topic conferences. • Apply for the Graduate Dean's Travel Grant for Doctoral Field Research.	• Continue to present at conferences. • 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.	• 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.
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 SGSPA Block - Gradifying. Look in the AMS Clubs Directory. • 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. Enrol in SGS902 or the PUTL certificate for more professional development.	• Find opportunities for extra training through CTL, School of Graduate Studies and Postdoctoral Affairs professional development, Mitacs, or other sources to boost your skills. • Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and FDISC.	• 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. • Attend a major conference in your field, such as a Canadian Society for Molecular Biosciences Annual Meeting. There are many to choose from, so talk to your supervisor for advice on which ones would be most relevant.
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.	• Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups. • If pursuing research outside Kingston, investigate options for funding with your supervisor or the Program Director.	• Do some networking in areas of interest through LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services Workshop • Consider signing up for the PhD-Community Initiative program run by the SGSPA.	• Consider joining one of the many professional associations related to biomedical & molecular sciences, such as the Canadian Society for Moleuclat Biosciences (CSMB). • Continue targeted networking with people working in careers of interest. Join groups on LinkedIn reflecting specific careers or topics of interest.
LAUNCH YOUR CAREER	• Finding a career that fits starts with knowing yourself. Take a Career Services workshop or meet with a career educator and coach for help. 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.	• Start building your teaching portfolio including student evaluations and seeking mentorship. • Explore different careers of interest by using LinkedIn to connect with Queen's alumni. For more information check out Career Cruising. • Investigate requirements for professional positions or other opportunities related to careers of interest. • Find impactful work that aligns with your values using the Queen's Career Guide to the UN Sustainable Development Goals.	• Participate in hiring committees and attend job talks. Research academic careers of interest. Craft your CV and job application materials. • Start focusing on non-academic areas of interest. Research organizations of interest and start putting together your industry resume and begin your job search plan.	• Build connections with faculty outside of your department. Pursue interviews for faculty positions and apply for post-doc fellowships and positions. • Apply to jobs or make plans for other adventures. Get help from Career Services with job searching, resumes, or interviews. • If considering jobs abroad, research possible immigration regulations. If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

WHAT WILL I LEARN?

A graduate degree in Biomedical and Molecular Sciences can equip you with:

- Knowledge and technical skills
- E fective 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 f ndings, 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

WHERE CAN I GO?

A PhD in Biomedical & Molecular Sciences can take your career in many directions. Many of our PhD students choose to continue their academic inquiry with teaching positions and further academic research. Our PhD students are equipped with a strong foundation for careers in:

- Academic, Health Care, Government, Private Sector Administration
- Educational specialization in Patent Law, Public Health, Business
- Entrepreneurial Ventures
- Health Care
- Marketing positions in Private Sector
- Pharmaceutical Industry
- Research in Academic and Private Sectors
- Teaching in Academic Institutions or Private Sector

Exploring career options and building experience can help you transition to the world of work after graduation.

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.

Graduate Studies 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 SGSPA 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 SGSPA website for available resources.

What is the Queen's graduate 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 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

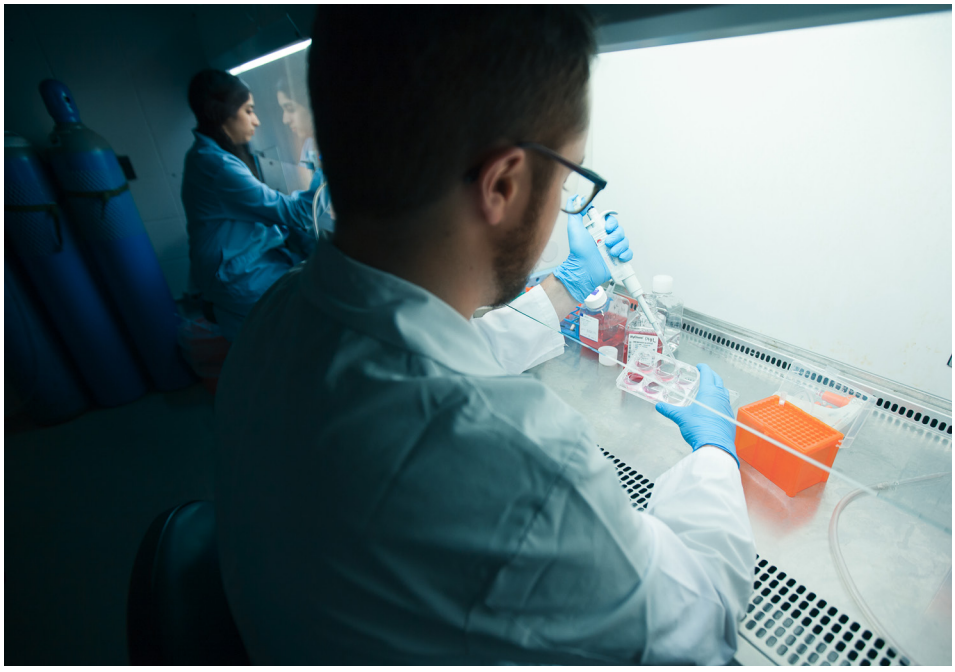
- **Application due:** March 1st (To be considered for internal awards). Flexible deadline.
- **Notification of acceptance:** Pending confirmation of a supervisor.

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

What about FUNDING?

Doctoral students are currently guaranteed a minimum stipend of $28,500 per year for years 1-4. This includes $4,500 in TAship earnings per year.

We encourage all students to apply for external funding from OGS, SSHRC, and other sources. For more information, see the School of Graduate Studies and Postdoctoral Affairs' information on awards and scholarships.



Queen's University | DEPARTMENT OF BIOMEDICAL & MOLECULAR SCIENCES

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