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

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 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.
**Achieve Your Academic Goals**

- Key priorities include your relationship with your supervisor, completing required health and safety and animal welfare courses, 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.

**Maximize Research Impact**

- Think about audiences for your research.
- Complete COBE online modules on research ethics if doing research 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 SGSPA, or media outlets like the Queen’s Journal, CJFE, and the SGSPA Blog - Gradifying Kingston. Look in the AMS Clubs database or at the Student Career Week to explore your career options.
- 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 the 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 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.
- Stay on the lookout for special events like Graduate Student Career Week to explore your career pathways.

**ACHIEVE YOUR ACADEMIC GOALS**

**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 School of Graduate Studies and Postdoctoral Affairs professional development, and the SGSPA website.
- Complete AODA training in accessible customer service.
- Seek experiential/professional development opportunities.

**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 School of Graduate Studies and Postdoctoral Affairs professional development, and the SGSPA website.
- Complete AODA training in accessible customer service.
- Seek experiential/professional development opportunities.

**YEAR III**

- Complete to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGSPA 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.

**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.

**Maximize Research Impact**

- Present your work at graduate conferences, through professional associations, or topic conferences.
- Apply for the Graduate Dean’s Travel Grant for Doctoral Field Research.

**Build Skills and Experience**

- Home 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 SGSPA’s online module for more professional development.

**Engage with Your Community**

- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- If pursuing research abroad or outside Kingston, investigate options for funding with your supervisor or the Program Director.

**Launch Your Career**

- Do some targeted networking with people working in careers of interest in biomedical & molecular sciences, such as the Canadian Society for Molecular Biosciences (CSMB).
- Continue targeted networking with people working in careers of interest. Join groups on LinkedIn reflecting specific careers or topics of interest in biomedical & molecular sciences.

**What Will I Learn?**

- A graduate degree in Biomedical & Molecular Sciences can apply to 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 academic integrity
  - Professionalism in all aspects of work, research, and interactions
  - Leadership: initiative and vision leading people and discussion

**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:

- 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

Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.
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?

The total minimum guaranteed stipend is $28,500 per academic year for PhD students in Biomedical and Molecular Sciences. This includes $4,500 in TAship earnings per year.

There will also be opportunities for additional TAship earnings throughout the academic year for PhD students that are on top of the minimum guaranteed stipends.

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 and Postdoctoral Affairs' information on awards and scholarships.

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