Why GRADUATE STUDIES in BIOLOGY?

There is no end to the fascinating questions we can ask about how the natural world functions, from dissecting the molecular mechanisms at play in cells to understanding the complexity of interactions in the biosphere, the beauty and mystery of nature astounds. It is an incredibly exciting time to do biological research and we are learning about the natural world at a rate unprecedented in history. The remarkable power of modern research tools, from powerful gene-editing techniques to bioinformatics to ecosystem modelling, is driving exciting discoveries daily. These discoveries are made by graduate students. Regardless of your area of interest, there is something in biology for you, questions waiting to be answered, and riddles of nature to be solved.

“When I started my [Biology graduate degree] at Queen’s, all of a sudden I had this new network of friends who were interested in the same biological questions that I was- it was a ton of fun.”

– Roslyn Dakin, PhD

Why QUEEN’S?

The Biology Department at Queen’s is one of the largest departments on campus with approximately 100 graduate students supervised by over 30 faculty with research opportunities in a range of disciplines. Our faculty are world leaders in several research fields, including many Canada and Queen's Research Chairs and winners of national and international awards for research and teaching excellence.

We offer a broad and challenging program in one of the top Biology departments in the country. We have an impressive range of sophisticated infrastructure for cell biology, biochemistry, molecular biology, ecology, and evolutionary research including: a confocal microscopy suite, DNA and RNA sequencing services, aquatic research facilities, and a state-of-the-art phytotron. Our field station, comprising more than 3200 hectares of woodland, fields and lakes is a short drive away and has excellent research facilities and living quarters.

Program STRUCTURE

PhD (4 years): research thesis and defense. (Some courses may be required).

RESEARCH Areas

- Animal Physiology
- Cell and Molecular Biology
- Ecology, Evolution and Behaviour
- Plant Sciences
- Mathematical Modeling & Bioinformatics
- Paleolimnology

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

Visit the Biology Department website to read faculty profiles and learn more about faculty members’ research areas. 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.
### WHAT WILL I LEARN?

A graduate degree in Biology can equip 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 and 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 Biology 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. Our PhD students are equipped with a strong foundation for careers in:

- Academia and teaching
- Agriculture
- Pharmacy and medicine
- Environmental law, patent law
- Government research centers and organizations
- Biotechnology industries
- Wildlife conservation and environmental consulting

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
- MSc in Biology or direct entry from B.Sc for exceptional candidates.

ADDITIONAL REQUIREMENTS
- Correspond with potential supervisors (may require C.V.).
- 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 1 (domestic students), February 15 (international students).
- Notification of acceptance: Students are accepted on a rolling basis as applications are reviewed.

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

What about FUNDING?

The minimum funding guarantee for Biology PhD students is $24,800 per year, throughout years 1-4. The funding package may be comprised of graduate awards and teaching assistantships.

Apply for external funding from OGS, NSERC and other sources. Queen's will automatically issue a one time $10,000 award to Doctoral 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.