

Biology MSc Map

Applying to and Navigating Graduate Studies

GRAD MAP FOR MSc STUDENTS 

Why GRADUATE STUDIES in BIOLOGY?

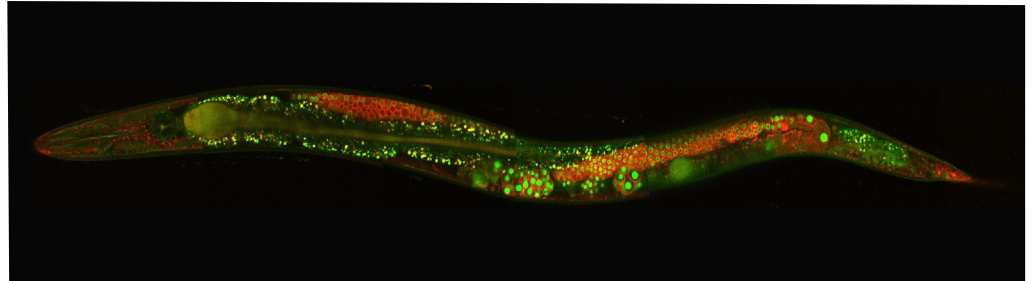
There is no end to the fascinating questions we can ask about how the natural world functions, from dissecting the molecular mechanisms at play in cells to understanding the complexity of interactions in the biosphere, the beauty and mystery of nature astounds. It is an incredibly exciting time to do 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 Research



Chairs and Queen's National Scholars, 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 3,200 hectares of woodland, fields, and lakes, is a short drive away and has excellent research facilities and living quarters.

Program STRUCTURE

MSc (2 years): 4 single-term courses with minimum standing of 70% in each, research thesis and defence.

Students who show exceptional promise in their research have the option to transfer to the PhD program after one year.

RESEARCH Areas

- Animal Physiology
- Cell and Molecular Biology
- Ecology, Evolution and Behaviour
- Plant Sciences
- Mathematical Modelling & 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 them and tell them about your interest in graduate work and related experience.



Queen's
UNIVERSITY

GRADUATE STUDIES AND
POSTDOCTORAL AFFAIRS

queensu.ca/grad-postdoc

Biology MSc Map

MASTER OF SCIENCE (MSc)



GETTING STARTED

INTERMEDIATE STAGE

WRAPPING UP

ACHIEVE YOUR ACADEMIC GOALS

- Start with key priorities like developing your relationship with your supervisor, forming your committee, and doing your coursework.
- Complete WHMIS safety training.
- Find your way through the academic process with help from departmental and School of Graduate Studies and Postdoctoral Affairs (SGSPA) professional development workshops, the department Grad Chair, and the SGSPA website.

MAXIMIZE RESEARCH IMPACT

- Start to think about the audiences for your research.
- If you will be continuing graduate studies, apply for NSERC and OGS funding.

BUILD SKILLS AND EXPERIENCE

- Consider positions in student services, the SGPS, or media outlets like the Queen's Journal, CFRC, and the SGSPA Blog. Look in the AMS Clubs Directory for more ideas.
- Serve on departmental, faculty, or university committees. Talk to the Biology Graduate Student Council for tips on getting involved.

ENGAGE WITH YOUR COMMUNITY

- Explore how you can connect with your community through experiential opportunities on and off-campus.
- Consider volunteering with different community organizations, such as the Kingston Field Naturalists.

LAUNCH YOUR CAREER

- Finding a career that fits starts with knowing yourself. Get help by taking a Career Services workshop or meeting with a career educator and coach. 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.
- Check admission test deadlines, if needed for further studies.

- Complete your coursework; begin to research and write your thesis.

- Consider participating in the 3 Minute Thesis (3MT) competition or GRADflix competition.
- Attend and participate in numerous seminars, including Departmental Seminars and the Al Downe Lecture series.
- Expand your research audience through social media, such as Twitter.
- Consider putting an article in The Conversation.

- Start keeping an ePortfolio of your skills, experiences, and competencies.
- Use a Research Assistant or Teaching Assistant position to develop your research or teaching skills.
- For help with teaching, get support from the Centre for Teaching and Learning. Enrol in SGS902 or the PUTL Certificate for more professional development in teaching and learning.

- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups like Let's Talk Science.
- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and Four Directions.
- International students interested in staying in Canada, consider speaking with an International Student Advisor.

- Explore different careers of interest by Queens Connects on LinkedIn to connect with Queen's alumni. Check out Career Cruising for more information.
- If you are considering a PhD, explore programs of interest, reach out to faculty, and apply to PhD programs and external scholarships.

- Complete and defend your thesis.

- Consider publication options for your research.
- Attend or present at a graduate conference such as those hosted by the Canadian Society for Ecology and Evolution, Society for Experimental Biology, Canadian Society of Plant Biology, or the many other national and international groups that feature graduate research.
- Consider being interviewed on the SGSPA radio show Grad Chat to talk about your research.

- 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.
- Check out opportunities for extra training through CTL, School of Graduate Studies and Postdoctoral Affairs professional development, MITACS, or other sources to boost your skills.

- Do some targeted networking with people working in careers of interest, through Queen's Connects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.
- Join professional associations like Science for Peace, and the many discipline-specific societies that host annual meetings.

- Participate in hiring committees and attend job talks. Start focusing on areas of interest. Research organizations of interest and start putting together your CV or resume for potential positions of interest. Get help from Career Services with job searching, resumes, and interviews.

Knowledge & Workplace Skills

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

Career Possibilities

A Master's degree in Biology 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:

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

Exploring career options, building experience, and networking can help you have a smooth 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 make the most of my time at Queen's?

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 Professional Development Plan (PDP) 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 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

- Honours Bachelor's Arts & Sciences degree.
- **Grade requirements:** minimum upper second class standing (B+ average).

ADDITIONAL REQUIREMENTS

- Correspond with potential supervisors (may require CV).
- 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?

MSc students in Biology receive minimum funding of \$24,300 per year for the two years of the program. Current tuition and other fees can be found here.

Apply for external funding from OGS, NSERC, and other sources. Queen's will automatically issue a one time \$5,000 award to incoming Masters 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, or see what awards are offered through the Biology Department.



Queen's
UNIVERSITY

DEPARTMENT OF
BIOLOGY

Graduate Assistant
biologygradassistant@queensu.ca
(613) 533-6138
www.biology.queensu.ca