

Biology M.Sc. Map

Navigating Graduate Studies and Beyond

GRAD MAP FOR M.Sc. STUDENTS 

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.

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.

Why **QUEEN'S?**

"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."

– Rosyln Dakin, PhD

The Biology Department at Queen's is one of the largest departments on campus with approximately 100 graduate students supervised by 32 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 3200 hectares of woodland, fields and lakes is a short drive away and has excellent research facilities and living quarters.

At Queen's, graduate students from all disciplines learn and discover in a close-knit intellectual community. With some of 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.

Why **KINGSTON?**

Described by students as both "quaint" and "eclectic," Kingston is big enough to provide all the conveniences of modern life, and small enough for students, staff, and faculty to feel instantly comfortable and at home.

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.

Program **STRUCTURE**

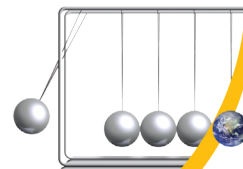
MSc (2 years): 4 single-term courses with minimum standing of 70% in each, research thesis and defence.

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 Modeling & Bioinformatics

School of
 Graduate
 Studies
 Create an impact
www.queensu.ca/sgs



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 [Expanding Horizons](#) professional development workshops, the department Grad Chair and the [SGS Habitat](#).

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](#), [QTV](#) and the [SGS 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.
- Check out professional development workshops from [Expanding Horizons](#).

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, museums, and cultural studies groups, such as the [Kingston Field Naturalists](#).

LAUNCH YOUR CAREER

- Finding a career that fits starts with knowing yourself. Get help by taking the [Career Services Career Planning workshop](#) or meeting with a career counsellor. Check out books like *So What Are You Going to do With That?* 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.
- 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.
- Attend and participate in graduate seminars such as [Departmental Seminars](#), [EEB](#), [Limnology](#), and [MCIB Seminars](#), as well as the [Al Downe Lecture](#).
- Expand your research audience through social media such as Twitter.

- 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](#). Enroll in [SGS901](#) 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 [Material Matters](#) or [Let's Talk Science](#).
- Prepare for work or studies in a multi-cultural environment by taking QUIC's [Intercultural Competency Certificate](#).
- If you are an international student interested in staying in Canada, consider speaking with an [International Student Advisor](#).

- Explore different careers of interest by reading [alumni profiles](#) on the SGS website, and using [QueensConnects](#) on LinkedIn to connect with Queen's alumni, or find alumni in various careers through "[Ask an Alum](#)".
- Check out the free online modules at [MyGradSkills](#) to help you plan your career.
- 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.

- Practice articulating the skills you have been developing in settings outside the university, such as casual conversation, networking, interviews. Get help with the [Skills and Experience workshop](#).
- Check out opportunities for extra training through CTL, Expanding Horizons, [Mitacs](#), or other sources to boost your skills.

- Do some targeted networking with people working in careers of interest, through [QueensConnects](#) on LinkedIn, the [Queen's Alumni Association](#), professional associations, and at conferences. Check out Career Services' [networking workshops](#).
- 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](#), or [interviews](#).

EMPLOYABILITY SKILLS

Knowledge and technical skills in areas of specialization and often in cross-disciplinary fields

Communication: effective and clear in written, oral and multimedia forms, for diverse audiences

Information management: prioritize, organize and synthesize large amounts of information

Time management: meet deadlines and responsibilities despite competing demands

Project management: develop ideas, gather information, analyze, critically appraise findings, draw and act on conclusions

Creativity and innovation to address complex, multifaceted challenges

Perseverance to work through challenges to achieve desired outcome

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 discussions

M.Sc. Map FAQs

What do I need to know to apply?

ACADEMIC REQUIREMENTS

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

ADDITIONAL REQUIREMENTS

- Correspond with potential supervisors. (May require C.V.)
- If English is not a native language, prospective students must meet the **TOEFL requirements** in writing, speaking, reading, and listening.

KEY DATES & DEADLINES

- **Application due:** March 1 (domestic students), February 15 (international students).
- **Notification of acceptance:** Accepted students are notified as the applications are reviewed.

Before you start your application, please review the [Graduate studies application process](#) and visit the [Biology grad studies page](#).

How do I find a supervisor?

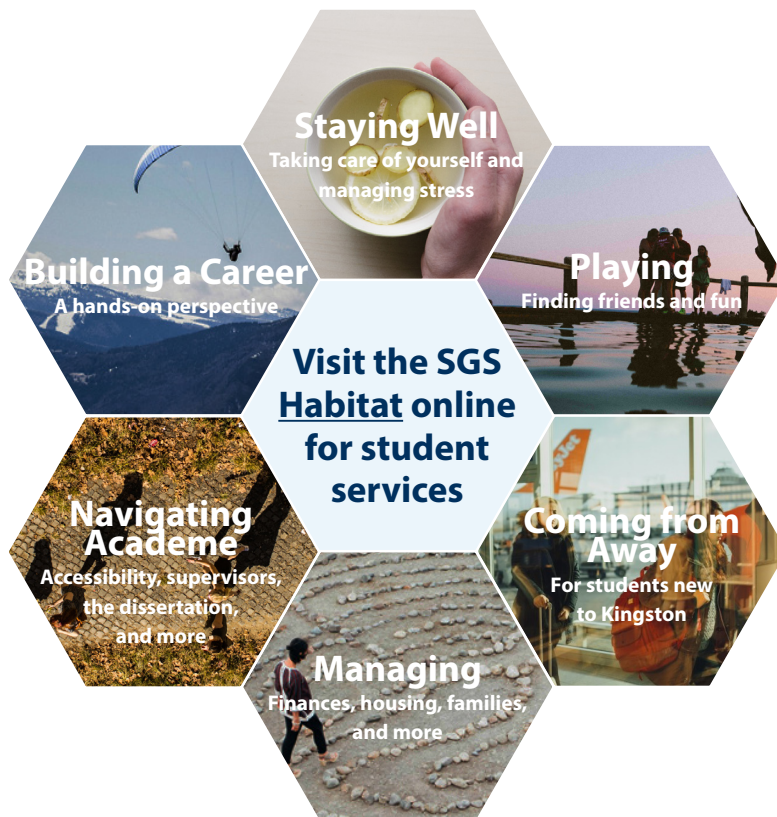
We encourage you to identify an area of research interest and contact a potential supervisor before applying.

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 about funding?

M.Sc. students in Biology receive minimum funding of \$22,650 per year for the two years of the program.

Apply for external funding from OGS, NSERC and other sources. Queen's will automatically issue a \$5,000 top-up to Masters winners of federal government tri-council awards. For more information, see the School of Graduate Studies' information on [awards and scholarships](#), or see what awards are offered through the Biology Department.

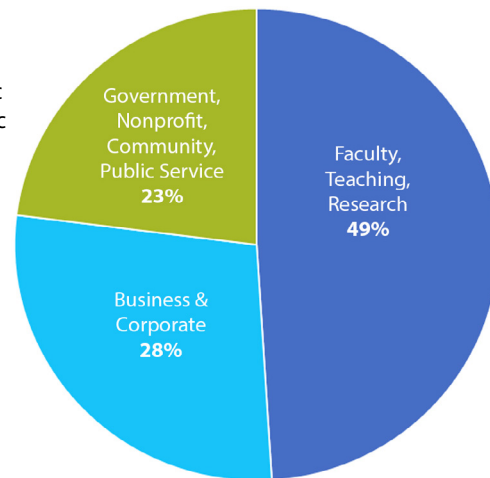


Where Can a Graduate Degree Take Me?

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
- Pharmacy and medicine
- Environmental law, patent law
- Government research centres 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.



M.Sc. Career Outcomes in Biology

Council of Graduate Schools and Educational Testing Service. (2012). Pathways Through Graduate School and Into Careers. Princeton, NJ: Educational Testing Service.



DEPARTMENT OF
BIOLOGY

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