That is a degree from Queen’s.

Get to know BIOLOGY

There has never been a more exciting time to study Biology, with subjects ranging as broadly as climate change and the conservation of biodiversity, the origin and evolution of life, the form and function of organisms, and the ongoing “omics” revolution at the molecular level. Our program emphasizes interactive learning with hands-on laboratories, small senior seminar modules and field courses. Our department also offers opportunities for field study around the globe — from Argentina to Africa.

New to Biology is the Biotechnology program that works with living organisms and other biological systems to help us improve our lives by discovering new drugs, improving crop production, and helping to develop novel forms of sustainable energy. Recognizing the interdisciplinary nature of biotechnology, the program will encourage students to take courses from several departments at Queen’s, everything from law to civil engineering to biomechanical and molecular sciences. There is also an option to combine this degree with a diploma in Biotechnology from St. Lawrence College.

Degree OPTIONS

Bachelor of Science (Honours)
Major / Minor / Specializations in Biology, Biotechnology, Biology and Mathematics, Biology and Psychology.
Environmental Biology
Bachelor of Science (General)
Bachelor of Arts (General)
Internship option available

“Biology is the science of life – and through our living teaching spaces such as the Queen’s University Biology Station (QUBS) and our Phytotron greenhouse our students live it every day.”

Queen’s ADMISSION

Students apply to Queen’s Science (QS) through the OUAC (Ontario Universities Application Centre) website (ouac.on.ca). Secondary School prerequisites include English 4U, Advanced Functions 4U, Calculus and Vectors 4U, plus two of Physics 4U, Chemistry4U or Biology 4U.

A Common START

Students in our Faculty are admitted into Arts, Science or Computing but the focus is on a common first year. Through self-exploration, and while you settle into university life, you have the opportunity to work with our advisors and faculty to discover your real interests and identify opportunities for success. Sometimes that discovery happens fairly quickly, and for other students it takes some work and time before the “ah-ha!” happens – either way your first year at Queen’s will be a great experience.

Course HIGHLIGHTS

The courses in Biology are very diverse from Ecology and Evolution, Animal and Plant Physiology to Biotechnology. Those interested in understanding biology at the cellular level can choose courses in Cell Biology, Genetics, Comparative Biochemistry and Analytical Genomics. If understanding whole ecosystems is your interest, we have courses in Population and Evolutionary Ecology, Conservation Genetics, Limnology and Aquatic Ecology and several field courses in Canada and abroad. If you are primarily interested in more human focused topics we have Human Genetics and Evolution, Plants for People, Evolution and Human Affairs, and Evolutionary Medicine.
### 1ST YEAR

- **In first year take BIOL 102, 103, CHEM 112 and MATH 120 or 121.** Interested in the Biology and Psychology Specialization? Take PSYC 100. Interested in the Biology and Mathematics Specialization? Take MATH 110 or 111.

- Each Science Plan will have several required first-year courses, including minors. For details see the Arts and Science Academic Calendar.

### GET THE COURSES YOU NEED

- **Volunteer on or off-campus with different community organizations, such as Queen's Health Outreach, Let's Talk Science, and Women in Science & Engineering at Queen's University (WISE).**

### GET CONNECTED WITH THE COMMUNITY

- **The Queen's University International Centre is your first step to learning how to internationalize your degree or to leverage your existing cross-cultural experience.**

### GET THINKING GLOBALLY

- **Spoke to a QUIC advisor or get involved in their programs, events and training opportunities.**

### GET READY FOR LIFE AFTER GRADUATION

- **Go to Majors Night or get some help considering career options from Career Services.**

### 2ND YEAR

- **In second year you can enrol in the Biology Honours Plan or one of our three specialized Plans (Biology and Psychology, Biology and Mathematics or Biotechnology).** Core courses such as Diversity of Life, Genetics, and Biostatistics lay the foundation for 3rd and 4th year. Please see the Academic Calendar to ensure you are taking the correct courses.

### GET THE COURSES YOU NEED

- **Volunteering is a great way to get practical experience and build your CV towards getting Biology jobs during your degree.**

### GET CONNECTED WITH THE COMMUNITY

- **Get involved with the Departmental Student Council (DSC). Start or continue volunteering with organizations.**

### GET THINKING GLOBALLY

- **Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a 3rd year exchange through your Faculty’s International Office. If exchange isn’t for you, come talk to QUIC about other options.**

### GET READY FOR LIFE AFTER GRADUATION

- **Explore different careers of interest by reading books in the Career Services Information Area, such as Opportunities in Biotechnology Careers.**

### 3RD YEAR

- **In third year take core courses in Ecology (BIOL 302 or BIOL 303), Physiology (BIOL 341 or BIOL 339), and Cell Biology (BIOL 330).**

### GET THE COURSES YOU NEED

- **You can focus your study into thematic areas: view suggested courses on the Department website. Check out our field courses (BIOL 307, 308, 317 and 327).**

### GET CONNECTED WITH THE COMMUNITY

- **Consider applying to research opportunities at Queen's University Biological Station or through the Biology Undergraduate Summer awards.**

### GET THINKING GLOBALLY

- **Build your intercultural competence by getting involved with other cultures by participating and improving your language skills.** Check QUIC’s resources for ideas to go abroad, volunteer or attend one of their events. Our field courses can take you around the world.

### GET READY FOR LIFE AFTER GRADUATION

- **Start focusing on areas of interest. Research education requirements for careers of interest.**

### 4TH OR FINAL YEAR

- **Thinking about graduate programs? Check out our Honours Thesis courses (BIOL 537 or BIOL 541) and Research Mentorship courses (BIOL 538-540).** If you’re looking for a unique study experience, check out our Honours Seminar courses (BIOL 551-556) and 4th year labs (BIOL 401-404).

### GET THE COURSES YOU NEED

- **By fourth year you should be working on your remaining option and elective courses. Make sure to map your minor and / or certificate(s) as well.**

### GET CONNECTED WITH THE COMMUNITY

- **Consider joining professional associations like Canadian Society for Ecology, Biotechnology in Canada, and the Canadian Society for Ecology and Evolution.**

### GET THINKING GLOBALLY

- **Join groups on LinkedIn reflecting specific careers or topics of interest in Biology.**

### GET READY FOR LIFE AFTER GRADUATION

- **Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, grad school applications, or other decisions.**

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Visit careers.queensu.ca/majormaps.html for the online version with links!
Succeed in the workplace

What employers want

The Canadian Council of Chief Executives list the top 6 skills sought by employers as:

1. People skills
2. Communication skills
3. Problem-solving skills
4. Analytical abilities
5. Leadership skills
6. Industry-specific knowledge

Take the time to think about the unique skills you have developed at Queen's, starting with the skills list here for ideas. Explaining your strengths with compelling examples will be important for applications to employers and further education. For help, check out the Career Services skills workshop.

What can I learn studying BIOLOGY?

- Develop knowledge of biological functions
- Use laboratory equipment and instruments
- Gain hands-on experience studying biology in the field
- Comply with quality control and safety regulations
- Collect and preserve organisms
- Design experimental studies
- Present literature and research findings in posters and seminars
- Observe and make measurements
- Write, review, and summarize reports/scientific writing
- Analyze and evaluate information
- Statistical analysis of biological data
- Solve quantitative problems

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. The map just offers suggestions – you don’t have to do it all! To make your own custom map, use the My Major Map tool.

A balanced approach leads to long-term success. While you will learn a lot from your studies, taking time to get relevant experience outside of the classroom, build your network, and gain international experience, will position you to be more competitive in your job search or grad school applications.

Get started thinking about the future now – where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

Get the help you need

Queen’s provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen’s, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally, and Queen’s wants you to succeed! Check out the Student Affairs website for available resources.