# Biology

There has never been a more exciting time to study and do research in biology, with subjects ranging from climate change and the conservation of biodiversity to the origin and evolution of life, and from the form and function of organisms to the ongoing "omics" revolution at the molecular level. Our program emphasizes interactive learning with hands-on experiential laboratories, field courses, small senior seminar modules, and independent research.

# Reasons To Study Biology

- SWEP jobs provide students with true research opportunities, and start after first year.
- 2 QUBS: an off-site field station that provides students with opportunities to learn hands-on from their environment.
- Courses are focused on cuttingedge topics in biology.
- Interact closely with professors in class and during our many events held throughout the year.
- 5 Apply for an internship, with specific jobs for all types of biological study and research.

### Alumni Story

"The Queen's Biology program was very well-rounded and definitely played a major role in helping to get where I am today. Not only did I learn a lot from the courses, but I also had the opportunity to do an independent research project and spend a summer doing fieldwork at Queen's University Biological Station."

-Sharon Zhang, BScH '13

### **TOP ALUMNI JOBS**

of alumni work in GOVERNMENT & NON-PROFIT

13 % of alumni work in BUSINESS & LAW

16% of alumni work in HEALTH CARE

35% of alumni work in EDUCATION

## 2023-24 Plan Thresholds

Thresholds are made on a competitive basis and are updated annually. To see the thresholds for all programs as well as the latest information, please visit quartsci.com/planselection

Interested in finding out how to augment your degree with Experiential Learning? Learn what opportunities and resources are available for you on the Experiential Learning website. You can also reach out to the team directly at <a href="mailto:ass.el@queensu.ca">ass.el@queensu.ca</a>.

## add a CERTIFICATE

Data Analytics

Disability and Physical Activity

#### Employment Relations

Entrepreneurship, Innovation and Creativity

French for Professionals

#### Geographic Information Science

Global Action and Engagement

Indigenous Languages and Cultures

International Studies

**Media Studies** 

Sexual and Gender Diversity

Urban Planning Studies

QUartsci.com/certs

## Acquire Skills. Gain Experience. Go Global.

That is a degree from Queen's.

biology.queensu.ca

2023-2024

# Biology MAJOR MAP

| BACHELOR OF SCIENCE (HONOURS): MAJOR, MINOR |  |  |  |
|---|--|--|--|
|   | 1ST YEAR   | 2ND YEAR   | 3RD \  |
| CET THE -                                   |  |  | >  |
| GET THE<br>COURSES<br>YOU NEED              | In first year you will have the chance to explore the foundations of Biology in biology, chemistry, geography, and geology along with some electives.  Attend Majors Night in the Winter term to learn more about Plan options.  Interested in getting a head start in learning and working in a digital world? Take ASCX 150 and develop future-ready skills! | Start going deeper into the discipline of Biology, while considering a minor and/or certificate such as Media Studies. Learn more about Certificates and Internship options.  Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Support Services) and the Writing Centre for some help.  Develop your entrepreneurial skills by participating in the Dean's Changemaker Challenge (ASCX 200/300). | A chance<br>of interes<br>explore m<br>Meet with<br>you are o<br>courses fo<br>Consider<br>faculty lak |
| CET DELEVANIT                               |  |  | >  |
| GET RELEVANT<br>EXPERIENCE                  | Join teams or clubs on campus such as Queen's First Aid, the Queen's Association for Technology in Medicine and Biology (QATMB), the Queen's Genetically Engineered Machine Team (QGEM) and the Queen's Synthetic Biology Organization (QSYNBIO). See the AMS Clubs Directory or the Queen's Get Involved page for more ideas.                                 | Volunteering is a great way to get practical experience and build your Resume towards getting Biology jobs during your degree.  Look into summer jobs by talking to the department or Career Services about work through SWEP or NSERC.  | Consider at Queen' through the awards. C QUIP inte year. Consider through A                            |
| GET   | ,  | >  | >  |
| CONNECTED<br>WITH THE<br>COMMUNITY          | 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 involved with the Departmental Student Council (DSC). Start or continue volunteering with organizations.  If interested, attend conferences and talks like the Canadian Undergraduate Conference on Healthcare (CUCOH).  | Do some working ir LinkedIn & Career Se Connect v workshop   |
|   |  |  | $\geq$   |
| GET THINKING<br>GLOBALLY                    | Prepare for work or studies in a multi-cultural environment by taking QUIC's Intercultural Competency Certificate, and research possible immigration regulations.  Speak to a QUIC advisor to get involved in their programs, events, and training opportunities.  | Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a third year exchange through the International Programs Office.  Look into a BIOL 307/317 Field Biology International Program.   | Build your<br>involved v<br>improving  |
| GET READY                                   |  |  |  |
| FOR LIFE AFTER GRADUATION                   | Grappling with program decisions? Go to Majors Night or get some help considering career options from Career Services.  Build your transferable skills in time management, problem-solving, writing, and more with Student Academic Success Services   | Explore different careers of interest in the Career Services Information Area. For more information check out <u>Career Cruising</u> or by finding and connecting with alumni on <u>LinkedIn</u> .   | Start focu:<br>education<br>If needed,<br>(like the W<br>about Gra                                     |

#### 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.

more with <u>Student Academic Success Services</u>.



#### D YEAR

nce to start grouping courses in areas erest, or to keep it more general and re many areas of Biology.

with an Academic Advisor to make sure re on track and have planned out your les for next year.

der independent research projects in y labs and in the field.

der applying to research opportunities een's University Biological Station or igh the Biology Undergraduate Summer.

25. Consider applying to do a 12-16 month internship between your third and fourth

der applying for research project funding gh ASURF (ASUS).

me targeted networking with alumning in careers of interest by joining the dln group Queen's Connects. Check outer Services networking workshops.

ect with professors at events or shops hosted by the DSC.

your intercultural competence by getting red with other cultures or by practicing and wing your language skills.

focusing on areas of interest. Research ition requirements for careers of interest. ded, prepare to take any required tests he MCAT or GMAT) and get help thinking: Grad School from Career Services.

#### 4TH OR FINAL YEAR

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In fourth year you will have the chance to participate in research-based courses that can lead to **Graduate School** or to your future career path. Make sure to finish up all your courses for your major and your optional minor and/or certificate(s).

Interested in working on a real-world problem with an actual client? Take ASCX 400 and develop your consulting and project-management skills.

Investigate requirements for full-time jobs or other opportunities related to careers of interest. Assess what experience you're lacking and fill in gaps with volunteering, clubs, or internships – check out the <u>Career Services</u> skills workshop for help. Participate in <u>Inquiry</u> @ Queen's undergraduate student conference.

Consider joining professional associations like <u>Canadian Society for Molecular</u> Biosciences, BIOTECanada, Society of <u>Conservation Biology</u> and the <u>Canadian Society for Ecology and Evolution</u>.

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

International students interested in staying in Canada can speak with an <u>International Student Advisor</u>.

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.

#### What will I learn?

A degree in Biology can equip you with:

- 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

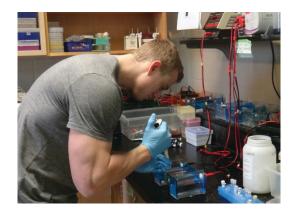
#### Where can I go?

A degree in Biology can take your career in many directions. Many students choose to continue their academic inquiry with a Master's. Our students are equipped with a strong foundation for careers in:

- Agricultural Sciences
- Bioeconomics
- Biotechnology
- Chiropracty
- Dentistry
- Environmental conservation
- Environmental sustainability
- Fisheries science
- Marine biology
- Medicine
- Medical technology
- Occupational therapy
- Oceanography
- Optometry
- Pharmacology
- Physical therapy
- Toxicology
- Veterinary medicine

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

## **Biology**



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. Queen's wants you to succeed! Check out the <a href="Student Affairs">Student Affairs</a> website for available resources.



ARTS AND

Biology Department Biosciences Complex 116 Barrie Street 613-533-6344 biology.queensu.ca

#### QUIPQUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

#### START DATES

#### in May, September, or January

#### POSITIONS WORK TERMS

#### aid and are 12-10

are paid and full-time

are 12-16 months

### PROGRAM OVERVIEW

- Graduate with a "Professional Internship" degree
- Learn about current advances, practices and technologies in business and industry.
- Test drive a career, earn a competitive salary, and get real world experience.

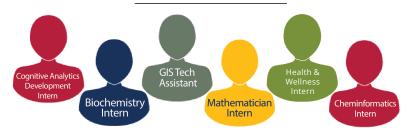
**ELIGIBILITY** 

- 2nd or 3rd Year Students
- Minimum GPA of 1.9

## WHY QUIP?

- Gain a year of career-related work experience.
- Build network connections.
- Receive support from Queen's staff in job search and during internship.

#### SAMPLE PAST INTERNSHIPS



For more information, contact quip@queensu.ca or visit the Program Website.

## Why study in Kingston?

For 175 years, our community has been more than a collection of bright minds – Queen's has attracted students with an ambitious spirit. Queen's has the highest retention rates, the highest graduation rates, and one of the highest employment rates among recent graduates. We are a research intensive university focused on the undergraduate experience. The BBC has identified Kingston as one of the GREATEST UNIVERSITY TOWNS in the world – and it is often awarded the safest city in Canada. It is a university city at the core; just a quick drive

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Ne're closer than you think to Toronto, Montreal, Ottawa and even New York. A university with more clubs per capita than any other university in Canada, and a city with more restaurants per capita than any other city in North America - you will have the London / 7 hrs CANADA Queen's experience of a Beijing / 15 hrs lifetime at Queen's Dubai / 14 hrs - and graduate Calgary / 4 hrs Vancouver / 5 hrs with a degree Halifax / 2 hrs that is globally San Francisco / 5.5 hrs Kingston recognized Denver/3 hrs among New York / 1.5 hrs UNITED the best. STATES Atlanta / 2 hrs Bermuda / 2 hrs