Biochemistry

Biochemistry is the branch of science that explores the structures and chemical processes of molecules in living organisms that interact to form cells, tissues and whole organisms. The Biochemistry program at Queen’s provides students with in-depth training in a wide range of important topics that are related to these processes, including the mechanisms of cancer progression, cellular communication, infection, inheritance, and disease. The program also offers opportunities for students to explore rapidly expanding fields in molecular genetics, metabolism of biomolecules, bioengineering, and regenerative medicine through hands-on training with professors in research labs.

**REASONS to study BIOCHEMISTRY**

1. Gain knowledge of chemical and biological processes within the human body and other organisms.
2. Work directly in our laboratories to become familiar with all types of equipment.
3. Build specific skills that employers are looking for in the industry.
4. Learn from top professors, who conduct research on cancer, reproductive health, and infection and disease.
5. Our internship program (QUIP) offers a range of careers to explore and companies to learn from.

**ALUMNI JOBS**

- 5% of alumni work in GOVERNMENT
- 11% of alumni work in PHARMACEUTICALS
- 17% of alumni work in HEALTH CARE
- 40% of alumni work in EDUCATION & RESEARCH

**2019-20 major thresholds**

- 2.9 cGPA AUTOMATIC ACCEPTANCE min pass in CHEM 112
- 2.5 cGPA PENDING LIST

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

**Acquire Skills. Gain Experience. Go Global.**

That is a degree from Queen’s.

healthsci.queensu.ca/liscbchm
Biochemistry MAJOR MAP *

BACHELOR OF SCIENCE (HONOURS): SPECIALIZATION, MAJOR, MINOR

1ST YEAR

In first year you will have the chance to explore the foundations of Biochemistry in biology, chemistry, mathematics, and physics along with some electives.

Attend Majors Night in the Winter term to learn more about Plan options.

GET THE COURSES YOU NEED

2ND YEAR

Gain an understanding of the building blocks of cells, how they interact and function to sustain life, and how we can study them.

Attend Degree + in the Fall term to 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.

GET RELEVANT EXPERIENCE

3RD YEAR

Receive in-depth exposure to all areas of Biochemistry and Molecular Biology, Cell Biology, including extensive hands-on laboratory experience.

Meet with an Academic Advisor in the Life Sciences and Biochemistry Program Office to make sure you are on track and have planned out your courses for next year.

Stay during the summer as an assistant to a faculty member or apply for an external summer research opportunity. Contact the Life Sciences and Biochemistry Program Office for information.

Consider applying to a 12-16 month QUIP internship between your third and fourth year.

GET CONNECTED WITH THE COMMUNITY

4TH OR FINAL YEAR

In fourth year you will develop skills of inquiry on advancing biochemical applications in industry and academia, and explore governmental regulations and ethics in research practice and information dissemination to the public.

SSP students will have the chance to participate in an honours thesis project that can lead to Graduate School or a future career in Medicine, Health Research, or Biotechnology, to name a few.

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 Career Services skills workshop for help. Participate in Inquiry at Queen’s undergraduate student conference.

Consider joining professional associations like the Canadian Society for Biochemistry and Molecular Biology and the International Union of Biochemistry and Molecular Biology.

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

Consider applying to a 12-16 month QUIP internship.

Go to conferences such as the Canadian Undergraduate Conference on Healthcare if interested.

Do targeted networking with alumni working in careers of interest by joining the LinkedIn group Queen’s Connects. Connect with professors at events or workshops hosted by the DSC.

Go to conferences such as the Canadian Society for Biochemistry and Molecular Biology and the International Union of Biochemistry and Molecular Biology.

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

COMSIDER A 12-16 MONTH QUIP INTERNSHIP

International students interested in staying in Canada can speak with an International Student Advisor.

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. Attend Town Hall meetings offered by the Associate Dean and provide input into the Program.

What will I learn?

A degree in Biochemistry can equip you with valuable and versatile skills that employers seek, such as:

- Knowledge of the chemical and biological processes within the human body and other organisms
- Understanding of organic, analytical and physical chemistry and biology (genetics)
- Ability to use statistics and computer programs for data processing
- Familiarity with a laboratory environment and ability to troubleshoot laboratory equipment and instruments
- Quantitative skills to solve quantitative problems
- Oral and written communication to write and summarize reports, along with giving oral presentations
- Time and resource management
- Work experience to help identify careers of interest

Where can I go?

A degree in Biochemistry 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
- Biotechnology
- Business
- Drug Development
- Epidemiology
- Genetic counseling
- Health administration
- Food science and technology
- Law
- Medicine
- Nutrition & dietetics
- Public health
- 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.

Visit careers.queensu.ca/majormap for the online version with links!

* This map is intended to provide suggestions for activities and careers, but everyone’s abilities, experiences, and constraints are different. Build your own Major Map using our online My Major Map tool.
Biochemistry

Major Map

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 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 experience of a lifetime at Queen’s – and graduate with a degree that is globally recognized among the best.

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.

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 Student Affairs website for available resources.

Life Sciences and Biochemistry

Faculty of Arts and Science
Botterell Hall, Room 815
18 Stuart Street
613-533-2900
healthsci.queensu.ca/liscbchm

Q UIP QUEEN’S UNDERGRADUATE INTERNSHIP PROGRAM

Start dates in May, September, or January
Positions are paid and full-time
Work terms are 12-16 months long

Program Overview

- Graduate with “Professional Internship” on your 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.

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We’re closer than you think.