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.

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

**TOP 5 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.

**2020-21 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/planelection

**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

2020-2021

GET THE COURSES YOU NEED

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.

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 Certificate 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.

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.

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.

Consider applying to a 12-16 month QUIP research opportunity. Contact the Life Sciences and Biochemistry Program Office for information.

Consider taking more responsibility within different clubs or extracurriculars, like Queen’s Lifeboat Newspaper. Look into summer jobs by talking to the department or Career Services about work through SWEP or NSERC. Consider entrepreneurial opportunities via programs like the Queen’s Innovation Connector Summer Initiative (QICSI).

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 workshops for help.

Participate in Inquiry @ Queen’s and Biochemistry Program Office to make sure you are on track and have planned out your courses for next year.

GET RELEVANT EXPERIENCE

Join teams or clubs on campus such as Let’s Talk Science and Queen’s First Aid.

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

SEE THE AMS Clubs Directory or the Queen’s Get Involved page for more ideas.

GET CONNECTED WITH THE COMMUNITY

Volunteer on- or off-campus with different community organizations, such as Science Rendezvous and the Queen’s iGEM Team.

Attend Majors Night or get some help considering career options from Career Services. Attend Biochemistry Information Night in October and Q & A Night in March offered by the DSC. Attend Information Sessions in November and January offered by the Associate Dean.

GET THINKING GLOBALLY

Prepare for work or studies in a multi-cultural environment by taking QUIP’s Intercultural Competency Certificate, and research possible immigration regulations.

Speak to a QUC 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.

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

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

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GET READY FOR LIFE AFTER GRADUATION

Grappling with program decisions? Go to Majors Night or get some help considering career options from Career Services. Attend Biochemistry Information Night in October and Q & A Night in March offered by the DSC. Attend Information Sessions in November and January offered by the Associate Dean.

Explore different careers of interest by reading books in the Career Services Information Area, such as Opportunities in Medical Technology Careers. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn. Attend Canadians Studying Medicine Abroad offered by the Associate Dean, Life Sciences and Biochemistry.

Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the MCAT or GRE) and get help thinking about your options from Career Services.

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 make your own Major Map tool.

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

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* 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.

Queens University
LIFE SCIENCES AND BIOCHEMISTRY
Faculty of Arts and Science
Botterell Hall, Room 815
18 Stuart Street
613-533-2900
healthsci.queensu.ca/liscbchm

QUIP 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
- Cognitive Analytics Development Intern
- Biochemistry Intern
- GS Tech Assistant
- Mathematical Intern
- Health & Wellness Intern
- Cheminformatics Intern

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

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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.