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.

MAJOR MAP

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.

FOR MORE INFORMATION, CONTACT quip@queensu.ca or VISIT THE PROGRAM WEBSITE.
Biochemistry MAJOR MAP *

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

1ST YEAR
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 major options.

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

GET THINKING GLOBALLY
Prepare for work or studies in a multi-cultural environment by taking QUIC’s Intercultural Competency Certificates, and research possible immigration regulations.

Speak to a QUIC advisor to get involved in their programs, events, and training opportunities.

2ND YEAR
GET THE COURSES YOU NEED
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 1 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
Consider taking more responsibility within different clubs or extracurriculars, like Queen’s LifeBeat Newspaper. Look into summer jobs by talking to the department or Career Services about work through SWEPl or NSERC. Consider entrepreneurial opportunities via programs like the Queen’s Innovation Connector Summer Initiative (QICSI).

GET CONNECTED WITH THE COMMUNITY
Get involved with the BCHM Student Council. Connect with professors at socials or attend speaker events.
Start or continue volunteering with organizations such as Médecins Sans Frontières (Doctors Without Borders).

GET THINKING GLOBALLY
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.

3RD YEAR
GET THE COURSES YOU NEED
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.

GET RELEVANT EXPERIENCE
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 Co-op/Internship between your third and fourth year.

4TH OR FINAL YEAR
GET THE COURSES YOU NEED
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.

GET RELEVANT EXPERIENCE
Investigate requirements for full-time jobs or other opportunities related to careers of interest.
Assess what experience you’re lacking and fill gaps with volunteering, clubs, or internships. Check out the Career Services job workshop for help. Participate in Inquiry@Queen’s undergraduate student conference.

GET CONNECTED WITH THE COMMUNITY
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.

GET THINKING GLOBALLY
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.

BUILD YOUR INTERCULTURAL COMPETENCE
Build your intercultural competence by getting involved with other cultures or by practicing and improving your language skills.

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, the job 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.