The Biochemistry program provides students with in-depth training in a wide range of essential topics related to fundamental cellular processes, including cellular metabolism, movement, replication, repair, and communication, and the molecular and genetic basis of infection and disease. The Biochemistry program offers opportunities for students to explore rapidly expanding fields in molecular genetics, bioengineering, and regenerative medicine through hands-on training with professors in research labs. This program also provides students with in-depth training needed to prepare them for entry into graduate programs, industry, and a wide array of careers in the biomedical sciences, education, medicine, and biotechnology.

**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.

**TOP 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**

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**2020-21 major 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

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

That is a degree from Queen’s.

healthsci.queensu.ca/liscbchm
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.

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.

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.

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.

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 SWEP or NSERC. Consider entrepreneurial opportunities via programs like the Queen’s Innovation Connector Summer Initiative (QICSI).

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

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).

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.

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

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

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.

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.

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 GMAT) and get help thinking about grad school from Career Services.

Meet with and Biochem are on tran 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.

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

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Visit careers.queensu.ca/majormaps for the online version with links!
Biology, including extensive hands-on laboratory experience.

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

• 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.

• 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 @ Queen’s undergraduate student conference.

• 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 counselling
• 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.

• Focusing on areas of interest. Researchation requirements for careers of interest. If ed, prepare to take any required tests (like the G or GMAT) and get help thinking about grad e from Career Services.

• During the summer, consider volunteering with the Life Sciences and Biochemistry Program Office for information.

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

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

• Investigate 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?
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• Business
• Drug Development
• Epidemiology
• Genetic counselling
• 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.

• 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 @ 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.

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

* 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/lischbchm