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.

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.

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

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/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.

#### 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.

#### 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.

---

### GET THE COURSES YOU NEED

- **GET THE COURSES YOU NEED**
  - **1ST YEAR**
    - Get exposed to 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 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.
  - **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 to make sure you are on track and have planned out your courses for next year.

---

### GET RELEVANT EXPERIENCE

- **GET RELEVANT EXPERIENCE**
  - **1ST 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.
  - **2ND YEAR**
    - 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).
  - **3RD 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.

---

### GET CONNECTED WITH THE COMMUNITY

- **GET CONNECTED WITH THE COMMUNITY**
  - **1ST YEAR**
    - Volunteer on- or off-campus with different community organizations, such as Science Rendezvous and the Queen’s iGEM Team.
  - **2ND YEAR**
    - 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).
  - **3RD YEAR**
    - 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.

---

### GET THINKING GLOBALLY

- **GET THINKING GLOBALLY**
  - **1ST YEAR**
    - 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.
  - **2ND YEAR**
    - 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**
    - Build your intercultural competence by getting involved with other cultures or by practicing and improving your language skills.

---

### GET READY FOR LIFE AFTER GRADUATION

- **GET READY FOR LIFE AFTER GRADUATION**
  - **1ST YEAR**
    - 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.
  - **2ND YEAR**
    - 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.
  - **3RD YEAR**
    - 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.

---

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

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.

Focusing on areas of interest. Researchation 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.

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.
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.