Get to know LIFE SCIENCES

The Life Sciences program at Queen’s University is one of our largest Bachelor of Science degree plans on campus. It is in high demand by students who wish to pursue careers in biomedical research and health care focusing on human life. With courses ranging from the anatomy and physiology of the organs in our bodies to the bacteria and viruses that compromise organ functions to the cells that give rise to carcinomas to the drugs used to cure us of infection and disease. The faculty members are a unique composite of scientists and teachers who share a common goal: to mitigate the consequences of disease and trauma by training the next generation of health care scientists and professionals.

Maclean’s Canadian Universities Guidebook cited Life Sciences at Queen’s as a Standout Program, having strength in “the integration of basic health sciences with natural and physical science”. Students are drawn to the strengths of the program, which include their ability to explore specific interests in Cancer Biology, Cardiorespiratory Sciences, Drug Development, or Neurosciences.

“One of the most popular programs at Queen’s.”

Degree OPTIONS

- Bachelor of Science (Honours)
- Major / Minor / Specialization in Life Sciences
- Bachelor of Science (General)
- Bachelor of Science (General) Online

Queen’s ADMISSIONS

Students apply to Queen’s Science (QS) through the OUAC (Ontario University Application Centre) website. Secondary School prerequisites include English 4U, Advanced Functions 4U, Calculus and Vectors 4U, plus two of Biology 4U, Chemistry 4U or Physics 4U.

Course HIGHLIGHTS

After taking foundational courses in Biology and Chemistry, students participate in core courses that explore human anatomy/physiology, pharmacology, and microbiology. In the third and fourth years, students can choose from a wide variety of class and laboratory based courses that cover topics including biochemistry, pathology, and epidemiology. Research projects in fourth year can focus on a broad range of fields including cancer biology, cardiorespiratory sciences, drug discovery and human toxicology, and neurosciences, as well as public health sciences, reproductive biology, and gastrointestinal function.

A Common START

Students in our Faculty are admitted into Arts, Science or Computing but the focus is on a common first year. Through self-exploration, and while you settle into university life, you have the chance to work with our advisors and faculty to uncover where your real interests and opportunities for success are. Sometimes that discovery happens fairly quickly, and for other students it takes some work and time before the “ah-ha!” happens – either way your first year will be a great experience at Queen’s.
GET THE COURSES YOU NEED
For the Major or Specialization, take BIOL 102 and BIOL 103, CHEM 112, MATH 121, and PHYS 117.
For details on plan thresholds, see the Arts and Science website. See an Academic Advisor at the Arts and Science Office or the Life Sciences and Biochemistry Program Office for help.

GET RELEVANT EXPERIENCE
Join teams or clubs on campus such as the Synthetic Biology Organization, Queen's iGEM, Queen's First Aid or Universities Allied for Essential Medicine, Queen's Life Sciences and Biochemistry Program Office for help.
Attend Information Sessions in November and January offered by the Associate Dean, Life Sciences and Biochemistry.

GET CONNECTED WITH THE COMMUNITY
Volunteer on and off-campus with different community organizations, such as Let's Talk Science (LTS), Queen's Union on Tropical Access to Health, or local charities.
Look into summer jobs by talking to the dept. or Career Services about work through SWIP or NSERC.

GET THINKING GLOBALLY
The Queen's University International Centre is your first stop to learn how to internationalize your degree or to leverage your existing cross-cultural experience.
Speak to a QUIC advisor or get involved in their programs, events and training opportunities.

GET READY FOR LIFE AFTER GRADUATION
Grappling with program decisions? Go to Majors night or get some help wondering about career options from Career Services.
Attend Information Sessions in November and January offered by the Associate Dean, Life Sciences and Biochemistry.

1ST YEAR

2ND YEAR
For the Major, in the Fall take CHEM 281 and PHGY 214. In the Winter, take CHEM 282, MCR 221.
For the Specialization, in the Fall take ANAT 215, CHEM 281, PHGY 214. In the Winter, take ANAT 216, BOHM 281, CHEM 282, MCR 221, PHGY 214.

3RD OR FINAL YEAR
Majors: take 30 option units in 3rd and 4th year.
Specializations: See course requirements and stream options at the Arts and Science online calendar for the Life Sciences plan requirements. Contact the Program Assistant for additional help. Begin researching and securing a 499 Project for your fourth year.

4TH OR FINAL YEAR
Apply to graduate on SOLUS. Use the Academic Advisement Report to ensure you have the courses you need to graduate. Students in Biomedical Discovery, Biomedical Sciences, Cancer Research, Cardiorespiratory Science, Drug Discovery and Human Toxicology, and Neurosciences subplans: ensure that you have declared your plan and have the right courses for the plan!

C O N S I D E R A 1 2 - 1 6 M O N T H Q U I P I N T E R N E S H I P
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.

Where could I go after graduation?
Animal research
Audiology
Biochemistry
Biotechnology
Dentistry
Drug development
Environmental management
Epidemiology
Ergonomics
Food science and technology
Forensics
Genetics
Health administration
Kinesiology
Law
Medical and clinical research
Medical illustration
Medicine
Microbiology
Neuroscience
Nutrition & dietetics
Occupational health and safety
Optometry
Pharmacy
Pharmaceutical Industry
Physical therapy
Public and private research laboratories
Public health
Toxicology
*Some careers may require additional training.

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

Caution: *This is a guide to provide suggestions throughout your university career. The activities, resources, and careers mentioned are possibilities – you are not restricted to them and you don't have to follow this exact timeline. Every person (including you) will find their own unique path through their degree at Queen's and beyond.
How to use this map

- Got questions about careers and classes?
- Feeling a little lost or overwhelmed by choices?
- Wondering what you are “supposed” to be doing?

Use this map to plan for success in five overlapping areas of career and academic life. Each map helps you explore possibilities, set goals and track your accomplishments. To make your own custom map, use the My Major Map tool.

Don’t stress if you haven’t done all of the suggested activities. The map is not a prescription – it’s a tool for finding your own way at Queen’s.

Getting what you need to succeed in the workplace

WHAT DO EMPLOYERS WANT?

In a recent survey from the Canadian Council of Chief Executives the top 6 skills sought by employers were:

1. People skills
2. Communication skills
3. Problem-solving skills
4. Analytical abilities
5. Leadership skills
6. Industry-specific knowledge

HOW DO I GET THE SKILLS I NEED?

It is important to develop a balanced skill set – many of which you will develop during your studies. To stand out, take advantage of experiential learning through the multitude of clubs and activities in and around Queen’s. Check out the Get Relevant Experience section of this map.

WHAT CAN I LEARN STUDYING LIFE SCIENCES AT QUEEN’S?

- Knowledge of cellular structures, organic systems, organic chemistry, and the functions of the human body
- Understanding of statistical research methods, the scientific method and experimental design
- Research skills – ability to draw relevant information out of a large amount of data
- Experience working in a laboratory setting and operating equipment
- Attention to detail – analyze and interpret scientific data
- Problem solving – adopt a systematic approach to problems
- Oral and written communication – produce laboratory reports and present a report to a group
- Resource and time management

WHAT MAKES ME SPECIAL?

No one will get exactly the same experience as you. Take the time to think about what skills you have developed to be able to best explain them with compelling examples in future applications to employers and further education. For help with this, check out the Career Services skills workshop.

Life Sciences
MAJOR MAP

Support for Student Success

Personal and Physical Health
Athletics and Recreation
Student Wellness Services

Emotional and Mental Health
Student Wellness Services
Peer Support Centre

Social and Interpersonal Health
AMS
Rector
Residence Life
Student Experience Office
Queen’s Legal Aid

Academic and Intellectual Health
Student Academic Success Services: Learning Strategies and the Writing Centre
Academic Advising
Adaptive Technologies Learning Commons

Career and Professional Health
Career Services
AMS
International Centre

Socio-Cultural and Spiritual Health
Aboriginal Student Centre
International Centre
Chaplain
Outreach Counsellor
Cross-Cultural Counsellor
Student Community Relations

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