Admission Requirements

Biomedical Science (BSc, iBSc)

Prerequisite Requirements for BSc:

- ENG4U, MHF4U, SBI4U, SCH4U
- Recommended: SPH4U

Prerequisite Requirements for iBSc:

- ENG4U, MHF4U, SBI4U, SCH4U
- Recommended: SPH4U

Expected minimum admission average: low-to-mid 80s

If you major in Biomedical Science your courses in first year will probably be:	In second year you will probably take:
• Biology • Chemistry • Calculus • Computer Use • General Education Course	• Cell Biology and Biochemistry • Genetics and Organic Chemistry • Animal Biology or Statistics for Biologists • Physics or Psychology • General Education Course
Career options for Biomedical Science majors include: • Biology Research – academic, government, industry • Industry – technical information, product information, sales • Education – elementary, high school, college, university • Professional Schools – Medicine, Dentistry, Pharmacy, Veterinary, Law, Business, etc. • Health Sciences – nurse, chiropodist, biomedical technician, genetic counsellor, diagnostic histologist, etc. • Postgraduate Studies/Academic Career	**Courses you might take in upper years include:** • Animal Physiology • Human Anatomy and Physiology • Regulation of Gene Expression • Microbiology • Virology • Biology of Cancer • Pharmaceutical Chemistry • Immunobiology • Neurobiology • Genomics • Proteomics • Cellular Regulation • Cell and Molecular Basis of Muscle Physiology • Vertebrate Endocrinology • Comparative Chordate Anatomy • Human Molecular Genetics

Why study Biomedical Science at York University?

Biomedical Science seeks to understand the fundamental processes of life and apply this knowledge to medicine and human health. The field of Biomedical Science is broad and includes:

- Immunology
- Cell biology
- Biochemistry
- Genetics
- Physiology
- Neuroscience
- Microbiology
- Virology
- Environmental health

Biomedical scientists play important roles in enhancing our understanding of human health and disease, from molecular to organismal levels. Biomedical scientists study fundamental aspects of biology including mechanisms of disease. They also work in areas that contribute to the development of new therapies and approaches aimed at improving human health.

As a biomedical student at York, you will:

- Explore a number of course options related to the expanding field of biomedical science
- Lay the foundation for your future career or continuing education in professional programs or graduate studies
- Prepare for a career in the many fields related to biomedicine
- Have the opportunity to work alongside leading researchers.

Research Opportunities

Advance your knowledge by gaining research experience outside the classroom. Students are able to learn advanced lab skills, use sophisticated lab equipment, interact with graduate students, gain in-depth knowledge in a particular field, and actually contributes to the advancement of scientific knowledge.

Program Overview

Offered as an Honours-level stream in the Biology program, Biomedical Science students will enroll in biology, chemistry and other science courses while maintaining enough flexibility in their course timetable to explore individual interests in complementary disciplines. Working with an academic advisor, students will plan their courses to meet their own personal, academic and career goals whether it is medical school, other professional programs, graduate studies or entering the biomedical workforce.

Starting in first year, students are introduced to both classroom and laboratory work and begin developing their understanding of the fundamental processes of life at the molecular, cellular and population levels. As students move through the program they choose from an extensive variety of science and non-science courses to tailor their degree to their individual interests. Additional options in the final years of the program allow for specialized study in areas such as:

- Cancer
- Neurobiology
- Pharmaceutical chemistry
- Immunobiology
- Human molecular genetics

These courses are taught by professors involved in cutting edge research, thereby providing a real-world context for the material students cover in class.

Students hoping to pursue medical school or other professional programs will be able to incorporate all required prerequisite courses into their schedule. Choosing courses from a broad range of disciplines helps prepare students for writing the MCAT (Medical College Admissions Test) or other professional school admission tests.

Facilities and Opportunities at York University and Beyond

Students studying in York's Faculty of Science have access to laboratory space, computer facilities and a library dedicated to research in the sciences. The new Life Sciences Building, houses state-of-the-art undergraduate laboratories, an advising office and a learning commons dedicated to first-year life science students. Combined with faculty members who are active researchers and excellent teachers, these facilities provide students with exposure to cutting edge research.

Students interested in Biomedical Science at York often take advantage of the non-academic offerings of the university as well. York offers students an extensive network of support and community through academic and career counseling but also through its support of student run clubs.

- York's student-run Pre-med Society hosts seminars and provides information to assist students considering medical school, dental school, and other health-related careers in a non-competitive environment. (see www.yorku.ca/ypms)
- The York University Biology Students Association provides a peer mentoring program and hosts events related to the biological sciences throughout the year. (see www.yorku.ca/yubs/)
- York's Career Centre hosts a Continuing Education Day each year where representatives from other institutions come to recruit York students to their professional and graduate programs. (see www.yorku.ca/careers)

The demand for highly skilled people with university level education in Biomedical Science is growing. Graduates of York's Biomedical Science program will be prepared for a range of careers outside our idea of traditional science and human health professions.

Biomedical scientists work in universities, hospitals, health departments, biomedical research institutes, government research centers and in the pharmaceutical, diagnostic, biotechnology and other health-related industries. Some may work in hospital labs, analyzing metabolic disorders, performing diagnostic testing, identifying biomarkers, blood typing, conducting genetic tests, diagnosing tumors or identifying an infectious micro-organism. This type of work is typically done in partnership with doctors, nurses and other healthcare professionals with the end goal of identifying disease factors and developing the best course of patient treatment. Others may be working in research roles to understand the biological processes that are disrupted by disease in both humans and animals. Yet others will be developing and testing new treatments for chronic diseases such as diabetes, cancer and arthritis.