# Admission Requirements

## Biotechnology (BSc)

### Prerequisite Requirements for BSc:
- ENG4U, MHF4U, SBI4U, SCH4U
- Recommended: SPH4U

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

<table>
<thead>
<tr>
<th>If you major in Biotechnology your courses in first year will probably be:</th>
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<tbody>
<tr>
<td>Biology</td>
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<tr>
<td>Chemistry</td>
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<td>Physics</td>
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<tr>
<td>Computer Use</td>
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<tr>
<td>Calculus</td>
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<tr>
<td>Micro Economics</td>
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<td>Macro Economics</td>
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<th>In second year you will probably take:</th>
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<tr>
<td>Cell Biology and Biochemistry</td>
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<td>Genetics</td>
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<td>Statistics for Biologists</td>
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<td>Organic Chemistry</td>
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<td>Analytic Chemistry</td>
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<td>Ethics</td>
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<td>General Education Course</td>
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### Career options for Biotechnology majors include:
- Government Positions – Research and Development, Regulation
- Industry – Research and Development, Clinical Research, Quality Control, Regulatory Affairs
- Marketing and Sales, Direction and Development
- Clinical Research
- Forensics
- Graduate Studies/Academic Career
- Education – elementary, high school, college, university
- Health Sciences – clinical research, biomedical research, lab management, genetic counsellor, diagnostic
- Professional schools – Medicine, Dentistry, Pharmacy, Law, Business, etc.

### Courses you might take in upper years include:
- Molecular Biology
- Microbiology
- Management and Business
- Finance and Accounting
- Biotechnology
- Honours Thesis
- Industrial Chemistry and the Environment
- Instrumental Methods of Chemical Analysis
- Regulation of Gene Expression
- Immunobiology
- Human Molecular Genetics
- Virology
- Eukaryotic Genetics
- Plant Molecular Biology
- Genetic Stability and Change
- Cell Regulation
- Neurobiology
Why study Biotechnology at York University?

Biotechnology is the application of science and engineering to the innovative use of living organisms in the creation of new products that improve the quality of our food, our health and our environment. Biotechnology, as a specialization within Biology, is important in areas such as the development of new methods for the diagnosis of disease, the genetic modification of agricultural crops and animals. Biotechnology is not as new as it seems, it actually dates far back in human history with the use of microorganisms in the fermentation of wine and beer or the making of bread and cheese. At York, Biotechnology students receive the rigorous science training necessary to study and work in this exciting and rapidly expanding field while enhancing their science education by taking courses that explore the social, legal and ethical aspects of the field.

Program Overview

Biotechnology at York is offered as a stream in the Specialized Honours Biology program. A carefully selected set of courses in areas related to biotechnology prepare you for an extensive list of employment possibilities or graduate studies.

In the final years of the program, you will have the opportunity to enhance and refine your knowledge of the theory and practice of molecular biology, biotechnology, and biochemistry while taking additional courses in Environmental and Advanced Analytical Chemistry. All students are required to complete an Honours Thesis course, which may provide the opportunity for first-hand experience in independent research and current laboratory technique.

Facilities and Opportunities at York University and Beyond

The Biology Department at York has been recognized nationally for offering unusually extensive laboratory training to its undergraduate students. The new Life Sciences Building houses 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. The professors who teach in the Biotechnology stream are involved with innovative and exciting research and are passionate about the courses they teach.

While the Biotechnology program is designed to prepare you for a career in biotechnology, it will also provide you with a solid foundation for graduate level studies in molecular genetics, cell biology and biochemistry or for professional programs such as medicine, law and business.

Experiential Education

The Faculty of Science provides a rich diversity of opportunities for undergraduate students to engage in Experiential Education. Students can explore the ideas covered in class through a variety of experiences – whether they are in the classroom, in a lab, working in a community organization or a private sector firm.

Here are just a few of the companies you could have the opportunity to work for:

- Sanofi Pasteur
- Health Gene Corporation
- Parks Canada
- City of Toronto
- Grande Prairie Regional College

Visit /science.yorku.ca/current-students/ee/ for more information

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.