BIOTECHNOLOGY MINOR (FOR ENGINEERING STUDENTS) (B.ENG.) (24 CREDITS)

Offered by: Biology (Faculty of Science)
Degree: Bachelor of Engineering
Program credit weight: 24

Program Description

Minor Adviser: Faculty Student Adviser in the McGill Engineering Student Centre (Student Affairs Office) (Frank Dawson Adams Building, Room 22). For advising regarding Science courses, contact Nancy Nelson, Undergraduate Adviser, Department of Biology, Faculty of Science.

This Minor is offered by the Faculty of Engineering and the Faculty of Science for students who wish to take biotechnology courses that are complementary to their area. It has been designed specifically for Chemical Engineering students; other Engineering students who are interested in the Minor should contact a Faculty Student Adviser in the McGill Engineering Student Centre (Student Affairs Office) (Frank Dawson Adams Building, Room 22).

To obtain the Biotechnology Minor, students must complete 24 credits, 18 of which must be exclusively for the Minor. Approved substitutions must be made for any of the required courses that are part of the student's major program.

The Department of Chemical Engineering permits students taking this Minor to complete BIOT 505 Selected Topics in Biotechnology. as one of their technical complementary courses. Chemical Engineering students complete 15 credits beyond their 141-credit (115-credit for CEGEP students) B.Eng. program to obtain this Minor.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Required Courses (12 credits)

Expand allContract all

Course	Title	Credits
BIOT 505	Selected Topics in Biotechnology.	3
CHEE 200	Chemical Engineering Principles 1.	3
CHEE 204	Chemical Engineering Principles 2.	3
CHEE 474	Biochemical Engineering.	3

OR

Alternative Required Courses (for Chemical Engineering students)

A Chemical Engineering student may complete the Biotechnology Minor by taking the courses below plus one course from the list of complementary courses, not including FACC 300 Engineering Economy..

Expand allContract all

Course	Title	Credits
BIOL 200	Molecular Biology.	3
BIOL 201	Cell Biology and Metabolism.	3
BIOL 202	Basic Genetics.	3
BIOT 505	Selected Topics in Biotechnology.	3
MIMM 211	Introductory Microbiology.	3

Complementary Courses

12 credits selected from courses outside the Department of the student's major program and/or from the lists below. If courses are chosen from the lists below, at least three courses must be taken from one area of concentration as grouped.

Biomedicine

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Course	Title	Credits
ANAT 541	Cell and Molecular Biology of Aging.	3
EXMD 504	Biology of Cancer.	3
PATH 300	Human Disease.	3

Chemistry

Expand allContract all

Course	Title	Credits
CHEM 482	Organic Chemistry: Natural Products.	3
CHEM 502	Advanced Bio-Organic Chemistry.	3
CHEM 552	Physical Organic Chemistry.	3

General

Expand allContract all

Course	Title	Credits
FACC 300	Engineering Economy.	3

Immunology

Expand allContract all

Course	Title	Credits
ANAT 261	Introduction to Dynamic Histology.	4
BIOC 503	Biochemistry of Immune Diseases.	3
MIMM 214	Introductory Immunology: Elements of Immunity.	3
MIMM 414	Advanced Immunology.	3
PHGY 513	Translational Immunology.	3

Management

Note: Engineering students may not use these courses to count toward a Management minor, nor toward the Complementary Studies requirement.

Expand allContract all

Course	Title	Credits
ECON 208	Microeconomic Analysis and Applications.	3
MGCR 211	Introduction to Financial Accounting.	3
MGCR 341	Introduction to Finance.	3
MGCR 352	Principles of Marketing.	3
MGCR 372	Operations Management.	3

Microbiology

Expand allContract all

Course	Title	Credits
MIMM 323	Microbial Physiology.	3
MIMM 324	Fundamental Virology.	3
MIMM 413	Parasitology.	3
MIMM 465	Bacterial Pathogenesis.	3
MIMM 466	Viral Pathogenesis.	3

Molecular Biology (Biology)

Expand allContract all

Course	Title	Credits
BIOL 300	Molecular Biology of the Gene.	3
BIOL 314	Molecular Biology of Cancer.	3
BIOL 520	Gene Activity in Development.	3
BIOL 524	Topics in Molecular Biology.	3
BIOL 551	Principles of Cellular Control.	3

Molecular Biology (Biochemistry)

Expand allContract all

Course	Title	Credits
BIOC 311	Metabolic Biochemistry.	3
BIOC 312	Biochemistry of Macromolecules.	3
BIOC 450	Protein Structure and Function.	3
BIOC 454	Nucleic Acids.	3

Physiology

Expand allContract all

Course	Title	Credits
EXMD 401	Physiology and Biochemistry Endocrine Systems.	3
EXMD 502	Advanced Endocrinology 1.	3
EXMD 503	Advanced Endocrinology 02.	3
PHAR 562	Neuropharmacology.	3
PHAR 563	Endocrine Pharmacology.	3
PHGY 518	Artificial Cells.	3

Pollution

Note: Engineering students may not use these courses to count toward the Environmental Engineering Minor.

Expand allContract all

Course	Title	Credits
CIVE 225	Environmental Engineering.	4
CIVE 430	Water Treatment and Pollution Control.	3
CIVE 557	Microbiology for Environmental Engineering.	3