

BIOCHEMISTRY MAJOR (B.SC.) (64 CREDITS)

Offered by: Biochemistry (Faculty of Science)

Degree: Bachelor of Science

Program credit weight: 64

Program Description

Students may transfer into the Major program at any time, provided they have met all course requirements.

Degree Requirements — B.Sc.

This program is offered as part of a Bachelor of Science (B.Sc.) degree.

To graduate, students must satisfy both their program requirements and their degree requirements.

- The program requirements (i.e., the specific courses that make up this program) are listed under the Course Tab (above).
- The degree requirements—including the mandatory Foundation program, appropriate degree structure, and any additional components—are outlined on the Degree Requirements page.

Students are responsible for ensuring that this program fits within the overall structure of their degree and that all degree requirements are met. Consult the Degree Planning Guide on the SOUSA website for additional guidance.

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.

Courses

U1 Required Courses (23 credits)

Expand allContract all

Course	Title	Credits
BIOC 212	Molecular Mechanisms of Cell Function.	3
BIOC 220	Laboratory Methods in Biochemistry and Molecular Biology 1.	3
BIOL 200	Molecular Biology.	3
BIOL 202	Basic Genetics.	3
CHEM 204	Physical Chemistry/Biological Sciences 1.	3
CHEM 212	Introductory Organic Chemistry 1.	4
CHEM 222	Introductory Organic Chemistry 2.	4

¹ Note: Students with CEGEP-level credit for the equivalents of CHEM 212 Introductory Organic Chemistry 1. and/or CHEM 222 Introductory Organic Chemistry 2. (see <http://www.mcgill.ca/students/courses/plan/transfer/> for accepted equivalents) may not take these courses at McGill and should replace them with elective courses to satisfy the total credit requirement for their degree.

U1 Complementary Courses (6 credits)

6 credits selected from:

Expand allContract all

Course	Title	Credits
BIOL 205	Functional Biology of Plants and Animals.	3
MIMM 211	Introductory Microbiology.	3
MIMM 214	Introductory Immunology: Elements of Immunity.	3
PHGY 209	Mammalian Physiology 1.	3
PHGY 210	Mammalian Physiology 2.	3

U2 Required Courses (20 credits)

Expand allContract all

Course	Title	Credits
ANAT 262	Introductory Molecular and Cell Biology.	3
BIOC 311	Metabolic Biochemistry.	3
BIOC 312	Biochemistry of Macromolecules.	3
BIOC 320	Laboratory Methods in Biochemistry and Molecular Biology 2.	3
CHEM 214	Physical Chemistry/Biological Sciences 2.	3
CHEM 302	Introductory Organic Chemistry 3.	3
CHEM 362	Advanced Organic Chemistry Laboratory.	2

U2 Complementary Courses (3 credits)

3 credits selected from:

Expand allContract all

Course	Title	Credits
BIOL 309	Mathematical Models in Biology.	3
BIOL 373	Biometry.	3
CHEM 267	Introductory Chemical Analysis.	3
COMP 202	Foundations of Programming.	3
COMP 204	Computer Programming for Life Sciences.	3
MATH 203	Principles of Statistics 1.	3
MATH 222	Calculus 3.	3
PSYC 204	Introduction to Psychological Statistics.	3

U3 Required Courses (6 credits)

Expand allContract all

Course	Title	Credits
BIOC 450	Protein Structure and Function.	3
BIOC 454	Nucleic Acids.	3

U3 Complementary Courses (6 credits)

3-6 credits selected from:

Expand allContract all

Course	Title	Credits
BIOC 458	Membranes and Cellular Signaling.	3
BIOC 470	Lipids and Lipoproteins in Disease.	3

BIOC 491	Independent Research.	6
BIOC 503	Biochemistry of Immune Diseases.	3

The remainder, if any, to be selected from the following list:

Expand allContract all

Course	Title	Credits
BIOL 300	Molecular Biology of the Gene.	3
BIOL 303	Developmental Biology.	3
BIOL 304	Evolution.	3
BIOL 313	Eukaryotic Cell Biology.	3
BIOL 314	Molecular Biology of Cancer.	3
CHEM 267	Introductory Chemical Analysis.	3
CHEM 482	Organic Chemistry: Natural Products.	3
CHEM 502	Advanced Bio-Organic Chemistry.	3
CHEM 532	Structural Organic Chemistry.	3
CHEM 552	Physical Organic Chemistry.	3
CHEM 572	Synthetic Organic Chemistry.	3
EXMD 502	Advanced Endocrinology 1.	3
MIMM 324	Fundamental Virology.	3
PHAR 300	Drug Action.	3
PHGY 311	Channels, Synapses and Hormones.	3