PHARMACOLOGY HONOURS (B.SC.) (76 CREDITS)

Offered by: Pharmacology and Therapeutics (Faculty of Science)
Degree: Bachelor of Science
Program credit weight: 76

Program Description

The Honours program is designed as a preparation for graduate studies and research. In addition to the strong training provided by the Major program, it requires students to have direct research experience in a chosen area during their final year of study. Acceptance into the Honours program takes place in the Winter term of U2 and requires a CGPA of 3.50. Students who wish to enter the Honours program should follow the Major program; those who satisfactorily complete the first three terms with a CGPA of at least 3.50 and a mark of B+ or higher in core Pharmacology courses (PHAR 300 Drug Action., PHAR 301 Drugs and Disease., and PHAR 303 Principles of Toxicology.) are eligible for admission. Applications can be obtained from the office of the Department of Pharmacology in the McIntyre Medical Building or on the Departmental website.

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.

Required Courses (46 credits)

U1

Expand allContract all

Course	Title	Credits
BIOL 200	Molecular Biology.	3
BIOL 202	Basic Genetics.	3
CHEM 212	Introductory Organic Chemistry 1.[1]	4
CHEM 222	Introductory Organic Chemistry 2.[1]	4
PHAR 200	Introduction to Pharmacology 1.	1
PHAR 201	Introduction to Pharmacology 2.	1
PHGY 209	Mammalian Physiology 1.	3
PHGY 210	Mammalian Physiology 2.	3
PHGY 212	Introductory Physiology Laboratory 1.	1
PHGY 213	Introductory Physiology Laboratory 2.	1

[1] Students who have taken the equivalent of CHEM 212 Introductory Organic Chemistry 1., CHEM 222 Introductory Organic Chemistry 2., and/or MATH 203 Principles of Statistics 1. in CEGEP (as defined at : http://www.mcgill.ca/students/transfercredit/prospective/cegep) are exempt and may not take these courses at McGill. Students must replace these credits with appropriate complementary course credits to satisfy the total credit requirements for their degree.

U2

Expand allContract all

Course	Title	Credits
BIOC 311	Metabolic Biochemistry.	3
BIOL 301	Cell and Molecular Laboratory.	4
PHAR 300	Drug Action.	3
PHAR 301	Drugs and Disease.	3
PHAR 303	Principles of Toxicology.	3

U3

Expand allContract all

Course	Title	Credits
PHAR 598D1	Honours Pharmacology Research Project.	3
PHAR 598D2	Honours Pharmacology Research Project.	3

Complementary Courses (30 credits)

3 credits, one of (highly recommended in Year 1):

Expand allContract all

Course	Title	Credits
ANAT 212	Molecular Mechanisms of Cell Function.	3
BIOC 212	Molecular Mechanisms of Cell Function.	3
BIOL 201	Cell Biology and Metabolism.	3

3 credits, one of (usually in Year 2):

Expand allContract all

Course	Title	Credits
CHEM 203	Survey of Physical Chemistry.	3
CHEM 204	Physical Chemistry/Biological Sciences 1.	3

3 credits, one of (usually in Year 2):

Expand allContract all

Course	Title	Credits
BIOL 373	Biometry.	3
MATH 203	Principles of Statistics 1.[1]	3
PSYC 204	Introduction to Psychological Statistics.	3

[1] Students who have taken the equivalent of CHEM 212 Introductory Organic Chemistry 1., CHEM 222 Introductory Organic Chemistry 2., and/or MATH 203 Principles of Statistics 1. in CEGEP (as defined at : http://www.mcgill.ca/students/transfercredit/prospective/cegep) are exempt and may not take these courses at McGill. Students must replace these credits with appropriate complementary course credits to satisfy the total credit requirements for their degree.

12 credits selected from the following Pharmacology courses:

Expand allContract all

Course	Title	Credits
PHAR 390	Laboratory in Pharmacology.	3
PHAR 503	Drug Discovery and Development 1.[1]	3
PHAR 504	Drug Discovery and Development 2.	3
PHAR 505	Structural Pharmacology.[1]	3
PHAR 508	Drug Discovery and Development 3.	3
PHAR 510	New Advances in Antimicrobial.	3
PHAR 540	Advances in Industrial Biotechnology .	3
PHAR 562	Neuropharmacology.	3
PHAR 563	Endocrine Pharmacology.	3
PHAR 565	Epigenetic Drugs and Targets.	3

[1] Students may take either PHAR 503 Drug Discovery and Development 1. or PHAR 505 Structural Pharmacology..

9 credits selected for the following science courses:

Committee approval is required to substitute a science course not in the list below.

Expand allContract all

Course	Title	Credits
ANAT 321	Circuitry of the Human Brain.	3
ANAT 322	Neuroendocrinology.	3
ANAT 365	Cellular Trafficking.	3
ANAT 381	Experimental Embryology.[1]	3
ANAT 458	Membranes and Cellular Signaling.[2]	3
BIEN 510	Engineered Nanomaterials for Biomedical Applications.	3
BIOC 312	Biochemistry of Macromolecules.	3
BIOC 450	Protein Structure and Function.	3
BIOC 454	Nucleic Acids.	3
BIOC 458	Membranes and Cellular Signaling.[2]	3
BIOC 470	Lipids and Lipoproteins in Disease.[3]	3
BIOL 300	Molecular Biology of the Gene.	3
BIOL 303	Developmental Biology.	3
BIOL 306	Neural Basis of Behaviour.	3
BIOL 314	Molecular Biology of Cancer.	3
BIOT 505	Selected Topics in Biotechnology.	3
CHEM 302	Introductory Organic Chemistry 3.	3
CHEM 334	Advanced Materials.[1]	3
CHEM 462	Green Chemistry.	3
CHEM 502	Advanced Bio-Organic Chemistry.	3
CHEM 503	Drug Discovery.	3
CHEM 522	Stereochemistry.	3
CHEM 552	Physical Organic Chemistry.	3
COMP 204	Computer Programming for Life Sciences.	3
EXMD 401	Physiology and Biochemistry Endocrine Systems.	3
EXMD 504	Biology of Cancer.	3
EXMD 509	Gastrointestinal Physiology and Pathology.[3]	3
HGEN 400	Genetics in Medicine.[3]	3
MIMM 387	The Business of Science.	3
MIMM 414	Advanced Immunology.	3
MIMM 466	Viral Pathogenesis.[4]	3
NEUR 310	Cellular Neurobiology.	3
PARA 410	Environment and Infection.	3
PATH 300	Human Disease.	3
PHAR 390	Laboratory in Pharmacology.	3
PHAR 503	Drug Discovery and Development 1.[5]	3
PHAR 504	Drug Discovery and Development 2.	3
PHAR 505	Structural Pharmacology.[5]	3
PHAR 508	Drug Discovery and Development 3.	3
PHAR 510	New Advances in Antimicrobial.	3
PHAR 522D1	Fundamentals of Disease Therapy.[6]	3
PHAR 522D2	Fundamentals of Disease Therapy.[6]	3
PHAR 524	Clinical Mentorship.	3
PHAR 540	Advances in Industrial Biotechnology .	3
PHAR 562	Neuropharmacology.	3
PHAR 563	Endocrine Pharmacology.	3
PHAR 565	Epigenetic Drugs and Targets.	3
PHGY 311	Channels, Synapses and Hormones.	3
PHGY 312	Respiratory, Renal, and Cardiovascular Physiology.	3
PHGY 313	Blood, Gastrointestinal, and Immune Systems Physiology.	3
PHGY 314	Integrative Neuroscience.	3
PHGY 425	Analyzing Physiological Systems.[1]	3
PHGY 524	Chronobiology.	3
PPHS 501	Population Health and Epidemiology.	3
PSYC 302	Pain.	3
PSYC 305	Statistics for Experimental Design.[3]	3
PSYC 311	Human Cognition and the Brain.	3
PSYC 317	Genes and Behaviour.[3]	3
PSYC 318	Behavioural Neuroscience 2.[3]	3
PSYT 301	Issues in Drug Dependence.	3

PSYT 500	Advances: Neurobiology of Mental Disorders.	3
REDM 410	Writing Research Articles.	3

1
2 Open to students who have the prerequisites
Students may take either ANAT 458 Membranes and Cellular
3 Signaling. or BIOC 458 Membranes and Cellular Signaling..
4 Access to these courses is not guaranteed
Access to these courses is not guaranteed. Open to students who
5 have the prerequisites.
Students may take either PHAR 503 Drug Discovery and
6 Development 1. or PHAR 505 Structural Pharmacology..
If chosen, PHAR 522D1 Fundamentals of Disease Therapy. and
PHAR 522D2 Fundamentals of Disease Therapy. are taken together.