# Neuroscience Honours Program - 74 credits

## Required Courses (38 credits)

- **BIOL 200** Molecular Biology
- **CHEM 212** (4 credits) Intro Organic Chemistry 1 *(If CHEM 212 is taken prior to start at McGill, students substitute an elective)*
- **NSCI 200** Introduction to Neuroscience 1 *(PHGY209)*
- **NSCI 201** Introduction to Neuroscience 2 *(PSYC308)*
- **NSCI 300** Neuroethics
- **BIOC 311** Metabolic Biochemistry
- **PHGY 311** Channels, Synapses & Hormones
- **PSYC 311** Human Cognition and the Brain
- **PSYC 318** Behavioural Neuroscience 2
- **NSCI 400** Neuroscience Seminar (1)
- **NSCI 430** Neuroscience Honours Research Project (9 credits)

## Core Complementary Courses (15 credits)

- **BIOL 201 OR BIOC 212** Cell Biology and Metabolism *(OR)* Molecular Mechanisms of Cell function
- **BIOL 373 OR PSYC 305 OR MATH 324** Biometry *(OR)* Statistics for Experimental Design *(OR)* Statistics
- **COMP 202 OR COMP 204** Foundations of Programming *(OR)* Computer Programming for Life Sciences
- **MATH 222 OR BIOL 309** Calculus 3 *(OR)* Mathematical Models in Biology
- **ANAT 321 OR BIOL 306 OR PHGY 314** Circuitry of the Human Brain *(OR)* Neural Basis of Behaviour *(OR)* Integrative Neuroscience

21 credits from the following lists, with at least 15 of the 21 credits at the 400- or 500-level

### 300-level courses:

- **BIOL 202** Basic Genetics
- **BIOL 300** Molecular Biology of the Gene
- **BIOL 301** Cell and Molecular Laboratory (4 cts)
- **BIOL 306** Neural Basis of Behaviour
- **BIOL 320** Evolution of Brain and Behaviour
- **BIOL 389** Laboratory in Neurobiology
- **CHEM 222** Introductory Organic Chemistry 2 (4 cts)
- **COMP 206 OR COMP 250** Introduction to Software Systems *(OR)* Intro to Computer Science
- **MATH 223** Linear Algebra
- **MATH 315** Ordinary Differential Equations
- **MATH 323** Probability
- **MATH 324** Statistics
- **MATH 324** Statistics
- **MATH 315** Intro Immunology: Elements of Immunity
- **MATH 314** Intermediate Immunology
- **MATH 314** Intermediate Immunology
- **NEUR 310** Cellular Neurobiology
- **PHAR 300** Drug Action
- **PHGY 210** Mammalian Physiology 2
- **PHGY 314** Integrative Neuroscience
- **PSYC 213** Cognition
- **PSYC 302** The Psychology of Pain
- **PSYC 315** Computational Psychology
- **PSYC 317** Genes and Behaviour
- **PSYC 342** Hormones and Behaviour

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### 400-/500-level courses:

- **BIOL 514**: Neurobiology Learning Memory
- **BIOL 530**: Advances in Neuroethology
- **BIOL 532**: Developmental Neurobiology Seminar
- **BIOL 580**: Genetic Approaches to Neural Systems
- **BIOL 588**: Molecular / Cellular Neurobiology
- **BMDE 519**: Biomedical Signals and Systems
- **COMP 546**: Computational Perception
- **MATH 437**: Mathematical Methods in Biology
- **MIMM 414**: Advanced Immunology
- **MIMM 509**: Inflammatory Processes
- **NEUR 502**: Basic/Clinical Aspects of Neuroimmunology
- **NEUR 503**: Computational Neuroscience
- **NEUR 507**: Topics in Radionuclide Imaging
- **NEUR 505**: Free Radical Biomedicine
- **PHAR 562**: Neuropharmacology
- **PHGY 425**: Analyzing Physiological Systems
- **PHGY 451**: Advanced Neurophysiology
- **PHGY 513**: Cellular Immunology
- **PHGY 520**: Ion Channels
- **PHGY 524**: Chronobiology
- **PHGY 556**: Topics in Systems Neuroscience
- **PSYC 410**: Special Topics in Neuropsychology
- **PSYC 427**: Sensorimotor Neuroscience
- **PSYC 433**: Cognitive Science
- **PSYC 444**: Sleep Mechanisms and Behaviour
- **PSYC 467**: Memory and Brain
- **PSYC 502**: Psychoneuroendocrinology
- **PSYC 506**: Cognitive Neuroscience of Attention
- **PSYC 513**: Human Decision-Making
- **PSYC 522**: Neurochemistry and Behaviour
- **PSYC 526**: Advances in Visual Perception
- **PSYC 529**: Music Cognition
- **PSYC 433**: Cognitive Science
- **PSYC 470**: Memory and Brain
- **PSYT 455**: Neurochemistry
- **PSYT 500**: Advances: Neurobiology of Mental Disorders

### Notes:

- Freshman credits (U0) - only for students admitted into a 120-credit program:
  - 4 100-level Approved Science Freshman courses:
  - 2 100-level Approved Math Freshman courses:
  - 1 Complementary Freshman course:

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