Major Concentration in Neuroscience - 65 credits

### Required Courses (20 credits)

- [ ] BIOL 200  Molecular Biology
- [ ] CHEM 212 (4 credits)  Intro Organic Chemistry 1 (If CHEM 212 is taken before start at McGill, students substitute elective)
- [ ] NSCI 200  Introduction to Neuroscience 1 (PHGY209)
- [ ] NSCI 201  Introduction to Neuroscience 2 (PSYC308)
- [ ] NSCI 300  Neuroethics
- [ ] PSYC 311  Human Cognition and the Brain
- [ ] NSCI 400  Neuroscience Seminar (1)

### Core Complementary Courses (9 credits)

- [ ] COMP 202  OR  COMP 204  Foundations of Programming  OR  Computer Programming for Life Sci
- [ ] BIOL 373  OR  PSYC 305  OR  MATH 324  Biometry  OR  Statistics for Experimental Design  OR  Statistics
- [ ] MATH 222  OR  BIOL 309  Calculus 3  OR  Mathematical Models in Biology

### Stream Courses (15 credits)

#### Stream A - Cell and Molecular

- [ ] BIOL 211  OR  BIOC 212  Cell Biology and Metabolism  OR  Molecular Mechanisms of Cell function
- [ ] BIOL 202  Basic Genetics
- [ ] BIOC 311  Metabolic Biochemistry
- [ ] MIMM 214  OR  PHAR 300  Introductory Immunology: Elements of Immunity  OR  Drug Action
- [ ] PHGY 311  Channels, Synapses & Hormones

#### Stream B - Neurophysiology/Neural Computation

- [ ] BIOL 211  OR  BIOC 212  Cell Biology and Metabolism  OR  Molecular Mechanisms of Cell function
- [ ] BIOL 306  OR  PHGY 314  Neural Basis of Behaviour  OR  Integrative Neuroscience
- [ ] PHGY 311  Channels, Synapses & Hormones

**AND 6 credits from:**

- [ ] ANAT 321  Circuitry of the Human Brain  [ ] MATH 223  Linear Algebra
- [ ] BIOL 309  Mathematical Models in Biology  [ ] COMP 206  Intro to Software Systems
- [ ] MATH 222  Calculus 3  [ ] COMP 250  Intro to Computer Science

#### Stream C - Cognitive/Behavioural

- [ ] PSYC 213  Cognition
- [ ] PSYC 318  Behavioural Neuroscience 2
- [ ] BIOL 306  OR  PHGY 314  Neural Basis of Behaviour  OR  Integrative Neuroscience

**AND 6 credits from:**

- [ ] ANAT 321  Circuitry of the Human Brain  [ ] PSYC 317  Genes and Behaviour
- [ ] PSYC 302  The Psychology of Pain  [ ] PSYC 342  Hormones and Behaviour
Other Complementary Courses (21 credits, 15 of which must be at the 400- or 500-level)

Student take a minimum of 3 credits and a maximum of 16 credits from the following 4 courses:

- BIOL 301 Cell and Molecular Laboratory (4 credits)
- BIOL 389 Laboratory in Neurobiology (3 credits)
- NSCI 410 Independent Research 1 (6 credits)
- NSCI 420 Independent Research 2 (9 credits)

The remaining credits are chosen from the following courses:

### 300-level courses:

- **ANAT 321** Circuitry of the Human Brain
- **BIOL 201 OR BIOC 212** Cell Biology & Metabolism/Mol Mech of Cell Function
- **BIOL 202** Basic Genetics
- **BIOC 311** Metabolic Biochemistry
- **BIOC 310** Molecular Biology of the Gene
- **CHEM 222** Introductory Organic Chemistry 2 (4 cts)
- **COMP 206 OR COMP 250** Intro to Software Systems / Intro to Computer Science
- **MATH 223** Linear Algebra
- **MATH 315** Ordinary Differential Equations
- **MATH 323** Probability

### 400-/500-level courses:

- **BIOL 514 OR PSYC 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** Math 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 550** Free Radical Biomedicine
- **PHAR 562** Neuropharmacology
- **PHGY 425** Analyzing Physiological Systems
- **PHGY 451** Advanced Neurophysiology

**Notes:**