

Student Name: \_\_\_\_\_

Student Number: \_\_\_\_\_

Completed: \_\_\_\_\_

Year: \_\_\_\_\_

## **Major Concentration in Neuroscience - 65 credits**

### **Required Courses (20 credits)**

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

### **Core Complementary Courses (9 credits)**

- |                          |  |  |
|--------------------------|--|--|
| <input type="checkbox"/> | COMP 202 <b>OR</b> COMP 204                    | Foundations of Programming <b>OR</b> Computer Programming for Life Sci     |
| <input type="checkbox"/> | BIOL 373 <b>OR</b> PSYC 305 <b>OR</b> MATH 324 | Biometry <b>OR</b> Statistics for Experimental Design <b>OR</b> Statistics |
| <input type="checkbox"/> | MATH 222 <b>OR</b> BIOL 309                    | Calculus 3 <b>OR</b> Mathematical Models in Biology                        |

### **Stream Courses (15 credits)**

#### **Stream A - Cell and Molecular**

- |                          |                             |   |
|--------------------------|-----------------------------|---|
| <input type="checkbox"/> | BIOL 201 <b>OR</b> BIOC 212 | Cell Biology and Metabolism <b>OR</b> Molecular Mechanisms of Cell function |
| <input type="checkbox"/> | BIOL 202                    | Basic Genetics  |
| <input type="checkbox"/> | BIOC 311                    | Metabolic Biochemistry  |
| <input type="checkbox"/> | MIMM 214 <b>OR</b> PHAR 300 | Introductory Immunology: Elements of Immunity <b>OR</b> Drug Action         |
| <input type="checkbox"/> | PHGY 311                    | Channels, Synapses & Hormones   |

#### **Stream B - Neurophysiology/Neural Computation**

- |                          |                             |   |
|--------------------------|-----------------------------|---|
| <input type="checkbox"/> | BIOL 201 <b>OR</b> BIOC 212 | Cell Biology and Metabolism <b>OR</b> Molecular Mechanisms of Cell function |
| <input type="checkbox"/> | BIOL 306 <b>OR</b> PHGY 314 | Neural Basis of Behaviour <b>OR</b> Integrative Neuroscience                |
| <input type="checkbox"/> | PHGY 311                    | Channels, Synapses & Hormones   |

**AND** 6 credits from:

- |                          |          |                                |                          |          |                           |
|--------------------------|----------|--------------------------------|--------------------------|----------|---------------------------|
| <input type="checkbox"/> | ANAT 321 | Circuitry of the Human Brain   | <input type="checkbox"/> | MATH 223 | Linear Algebra            |
| <input type="checkbox"/> | BIOL 309 | Mathematical Models in Biology | <input type="checkbox"/> | COMP 206 | Intro to Software Systems |
| <input type="checkbox"/> | MATH 222 | Calculus 3                     | <input type="checkbox"/> | COMP 250 | Intro to Computer Science |

#### **Stream C - Cognitive/Behavioural**

- |                          |                             |  |
|--------------------------|-----------------------------|--|
| <input type="checkbox"/> | PSYC 213                    | Cognition  |
| <input type="checkbox"/> | PSYC 318                    | Behavioural Neuroscience 2                                   |
| <input type="checkbox"/> | BIOL 306 <b>OR</b> PHGY 314 | Neural Basis of Behaviour <b>OR</b> Integrative Neuroscience |

**AND** 6 credits from:

- |                          |          |                              |                          |          |                        |
|--------------------------|----------|------------------------------|--------------------------|----------|------------------------|
| <input type="checkbox"/> | ANAT 321 | Circuitry of the Human Brain | <input type="checkbox"/> | PSYC 317 | Genes and Behaviour    |
| <input type="checkbox"/> | PSYC 302 | The Psychology of Pain       | <input type="checkbox"/> | 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:**

- |  |   |
|--|---|
| <input type="checkbox"/> ANAT 321 Circuitry of the Human Brain   | <input type="checkbox"/> MATH 324 Statistics                            |
| <input type="checkbox"/> BIOL 201 <b>OR</b> BIOC 212 Cell Biology & Metabolism/Mol Mech of Cell Function   | <input type="checkbox"/> MIMM 214 Intro Immunology: Element of Immunity |
| <input type="checkbox"/> BIOL 202 Basic Genetics   | <input type="checkbox"/> MIMM 314 Intermediate Immunology               |
| <input type="checkbox"/> BIOC 311 Metabolic Biochemistry   | <input type="checkbox"/> NEUR 310 Cellular Neurobiology                 |
| <input type="checkbox"/> BIOL 300 Molecular Biology of the Gene  | <input type="checkbox"/> PHAR 300 Drug Action                           |
| <input type="checkbox"/> BIOL 306 Neural Basis of Behaviour  | <input type="checkbox"/> PHGY 210 Mammalian Physiology 2                |
| <input type="checkbox"/> BIOL 307 Behavioural Ecology  | <input type="checkbox"/> PHGY 311 Channels, Synapses & Hormones         |
| <input type="checkbox"/> BIOL 320 Evolution of Brain and Behaviour   | <input type="checkbox"/> PHGY 314 Integrative Neuroscience              |
| <input type="checkbox"/> CHEM 222 Introductory Organic Chemistry 2 (4 cts)                                 | <input type="checkbox"/> PSYC 213 Cognition                             |
| <input type="checkbox"/> COMP 206 <b>OR</b> COMP 250 Intro to Software Systems / Intro to Computer Science | <input type="checkbox"/> PSYC 302 The Psychology of Pain                |
| <input type="checkbox"/> MATH 223 Linear Algebra   | <input type="checkbox"/> PSYC 315 Computational Psychology              |
| <input type="checkbox"/> MATH 315 Ordinary Differential Equations  | <input type="checkbox"/> PSYC 317 Genes and Behaviour                   |
| <input type="checkbox"/> MATH 323 Probability  | <input type="checkbox"/> PSYC 318 Behavioural Neuroscience 2            |
|  | <input type="checkbox"/> PSYC 319 Computational Models - Cognition      |
|  | <input type="checkbox"/> PSYC 342 Hormones and Behaviour                |

**400-/500-level courses:**

- |  |  |
|--|--|
| <input type="checkbox"/> BIOL 414 Invertebrate Brain Circuits and Behaviours | <input type="checkbox"/> PHGY 520 Ion Channels                               |
| <input type="checkbox"/> BIOL 506 Neurobiology of Learning                   | <input type="checkbox"/> PHGY 524 Chronobiology                              |
| <input type="checkbox"/> BIOL 530 Advances in Neuroethology                  | <input type="checkbox"/> PHGY 556 Topics in Systems Neuroscience             |
| <input type="checkbox"/> BIOL 532 Developmental Neurobiology Seminar         | <input type="checkbox"/> PSYC 410 Special Topics in Neuropsychology          |
| <input type="checkbox"/> BIOL 580 Genetic Approaches to Neural Systems       | <input type="checkbox"/> PSYC 427 Sensorimotor Behaviour                     |
| <input type="checkbox"/> BIOL 588 Molecular /Cellular Neurobiology           | <input type="checkbox"/> PSYC 433 Cognitive Science                          |
| <input type="checkbox"/> BMDE 519 Biomedical Signals and Systems             | <input type="checkbox"/> PSYC 443 Affective Neuroscience                     |
| <input type="checkbox"/> COMP 546 Computational Perception                   | <input type="checkbox"/> PSYC 444 Sleep Mechanisms and Behaviour             |
| <input type="checkbox"/> MATH 437 Math Methods in Biology                    | <input type="checkbox"/> PSYC 470 Memory and Brain                           |
| <input type="checkbox"/> MIMM 414 Advanced Immunology                        | <input type="checkbox"/> PSYC 502 Psychoneuroendocrinology                   |
| <input type="checkbox"/> MIMM 509 Inflammatory Processes                     | <input type="checkbox"/> PSYC 506 Cognitive Neuroscience of Attention        |
| <input type="checkbox"/> NEUR 502 Basic/Clinical Aspects of Neuroimmunology  | <input type="checkbox"/> PSYC 513 Human Decision-Making                      |
| <input type="checkbox"/> NEUR 503 Computational Neuroscience                 | <input type="checkbox"/> PSYC 514 Neurobiology of Memory                     |
| <input type="checkbox"/> NEUR 507 Topics in Radionuclide Imaging             | <input type="checkbox"/> PSYC 522 Neurochemistry and Behaviour               |
| <input type="checkbox"/> NEUR 550 Free Radical Biomedicine                   | <input type="checkbox"/> PSYC 526 Advances in Visual Perception              |
| <input type="checkbox"/> PHAR 562 Neuropharmacology                          | <input type="checkbox"/> PSYC 529 Music Cognition                            |
| <input type="checkbox"/> PHGY 425 Analyzing Physiological Systems            | <input type="checkbox"/> PSYT 455 Neurochemistry                             |
| <input type="checkbox"/> PHGY 451 Advanced Neurophysiology                   | <input type="checkbox"/> PSYT 500 Advances: Neurobiology of Mental Disorders |
| <input type="checkbox"/> PHGY 513 Cellular Immunology                        |  |

Notes: