1.0 Degree Title
Specify the two degrees for concurrent degree programs

1.1 Bachelor of Science (B.Sc.)

1.2 Concentration (Legacy = Concentration/Option)
If applicable (30 char. max.)
 Neuroscience

1.3 Minor (with Concentration, if applicable)
(30 char. max.)

1.4 Category

<table>
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<tr>
<th>Faculty Program (FP)</th>
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1.5 B.Sc.; Major in Neuroscience

2.0 Administering Faculty/Unit
Faculty of Science, Dean’s Office, Multidisciplinary Program

Offering Faculty/Department
Medicine and Science – Biology, Physiology and Psychology

3.0 Effective Term of revision or retirement
Please give reasons in 5.0 “Rationale” in the case of retirement
(Ex. Sept. 2004 = 200409) Retirement
Term: 200909

4.0 Existing Credit Weight

<table>
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<th>Proposed Credit Weight</th>
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5.0 Rationale for revised program
The proposed changes are related to the way the Neuroscience Major is listed in the Calendar. Courses and requirements remain unchanged.
A unique feature of the Neuroscience Major is that students follow one of 3 Streams. Currently, these 3 Streams are listed under Complementary Courses. Listing the Stream-Related Courses as a separate category will
a) make it easier for students to understand the program and compare it to other programs
b) simplify and provide greater clarity to the listing of Complementary Courses. Separately listing the 200/300-level options and the 400/500-level options of the Complementary Courses will also make it easier for the students to consider their options in satisfying the requirement that 18 of the 21 credits have to be at the 400/500-level.

6.0 Revised Program Description (Maximum 150 words)
An interdisciplinary Major program in Neuroscience is a focused program for students interested in how the nervous system functions. Research in neuroscience is highly interdisciplinary in nature, and borrows principles from a number of subjects including: biology, biochemistry, physiology, psychology, as well as mathematics, physics, computer science and immunology. To ensure that students have the appropriate foundation, they are required to take 32 credits in lower-level courses from physiology, biology, mathematics, computer science, psychology and ethics. While flexible, the program offers students a concentrated selection of 15 credits to be taken from one of three areas of current scientific activities in the neurosciences: Cell/Molecular, Neurophysiology/Computation, or Cognition/Behaviour. In addition, students select 21 credits from a wide array of upper-level complementary courses to obtain more specialized training in areas of neuroscience that best suit their interest.

Notes on admission to the Neuroscience Major Program: Please note that enrolment in the Neuroscience Major is limited to a total of 50 students per year. Students seeking admission to the program must have a minimum overall average of 3.2 and have completed BIOL 112, CHEM 110, CHEM 120, MATH 139 or MATH 140, MATH 141, PHYS 101 and PHYS 102 (or equivalent).
### Existing Program

**Core Required Courses** (19 - 20 credits)
- BIOL 200 (Molecular Biology)
- CHEM 212* (Introductory Organic Chemistry 1)
- NSCI 200 (Introduction to Neuroscience 1)
- NSCI 201 (Introduction to Neuroscience 2)
- NSCI 300 (Neuroethics)
- NSCI 400D1/D2 (Neuroscience Seminar)
- PSYC 311 (Human Cognition and the Brain)

*Note: If CHEM 212 is taken prior to the start of the program, credits must be replaced with an alternative course with approval from the program coordinator.

**Core Complementary Courses** (12 credits)
- 3 credits from:
  - PSYC 211 (Introductory Behavioural Neuroscience)
  - PSYC 212 (Perception)
  - PSYC 213 (Cognition)
- 3 credits from:
  - BIOL 373 (Biometry)
  - PSYC 305 (Statistics for Experimental Design)
- 3 credits from:
  - COMP 202 (Introduction to Computing 1)
  or equivalent in Computer Science
- 3 credits from:
  - MATH 222** (Calculus 3)
  - BIOL 309 (Mathematical Models in Biology)

**Complementary Courses** (36 credits)
- 15 credits from Stream A, Stream B, or Stream C.
  **A. Cell and Molecular Stream** (15 credits)
  - BIOL 201 (Cell Biology and Metabolism)
  or BIOC 212 (Molecular Mechanisms of Cell Function)
  - BIOL 202 (Basic Genetics)
  - BIOC 311 (Metabolic Biochemistry)
  - MIMM 314 (Immunology)
  - PHGY 311 (Channels, Synapses & Hormones)
  **B. Neurophysiology/Neural Computation Stream** (15 credits)
  - ANAT 321 (Circuitry of the Human Brain)
  - BIOL 201 (Cell Biology and Metabolism)
  or BIOC 212 (Molecular Mechanisms of Cell Function)
  - BIOL 306 (Neural Basis of Behaviour)
  or PHGY 314 (Integrative Neuroscience)
  - MATH 222** (Calculus 3)
  or BIOL 309 (Mathematical Models in Biology)
  - COMP 206 (Introduction to Software Systems)
  - PHGY 311 (Channels, Synapses & Hormones)

(See attached page)

### Proposed Program

**Core Required Courses** (19 - 20 credits) (all on one line)
- BIOL 200 (Molecular Biology)
- CHEM 212* (Introductory Organic Chemistry 1)
- NSCI 200 (Introduction to Neuroscience 1)
- NSCI 201 (Introduction to Neuroscience 2)
- NSCI 300 (Neuroethics)
- NSCI 400D1/D2 (Neuroscience Seminar)
- PSYC 311 (Human Cognition and the Brain)

*Note: If CHEM 212 is taken prior to the start of the program, credits must be replaced with an alternative course with approval from the program coordinator.

**Core Complementary Courses** (12 credits)
- 3 credits from:
  - PSYC 211 (Introductory Behavioural Neuroscience)
  - PSYC 212 (Perception)
  - PSYC 213 (Cognition)
- 3 credits from:
  - BIOL 373 (Biometry)
  - PSYC 305 (Statistics for Experimental Design)
- 3 credits from:
  - COMP 202 (Introduction to Computing 1)
  or equivalent in Computer Science
- 3 credits from:
  - MATH 222** (Calculus 3)
  - BIOL 309 (Mathematical Models in Biology)

**Stream-related Complementary Courses** (15 credits)
Choose one Stream: A, B, or C.

**A. Cell and Molecular Stream** (italics)
- BIOL 201 (Cell Biology and Metabolism)
  or BIOC 212 (Molecular Mechanisms of Cell Function)
- BIOL 202 (Basic Genetics)
- BIOC 311 (Metabolic Biochemistry)
- MIMM 314 (Immunology)
- PHGY 311 (Channels, Synapses & Hormones)

**B. Neurophysiology/Neural Computation Stream** (italics)
- ANAT 321 (Circuitry of the Human Brain)
- BIOL 201 (Cell Biology and Metabolism)
  or BIOC 212 (Molecular Mechanisms of Cell Function)
- BIOL 306 (Neural Basis of Behaviour)
  or PHGY 314 (Integrative Neuroscience)
- MATH 222** (Calculus 3)
  or BIOL 309 (Mathematical Models in Biology)
  or COMP 206 (Introduction to Software Systems)
- PHGY 311 (Channels, Synapses & Hormones)

(See attached page)
8.0 Consultation with Related Units

- [ ] Yes
- [ ] No

Financial Consult

- [ ] Yes
- [x] No

Attach list of consultations

### 9. Approvals

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<tr>
<td>Department</td>
<td>Monroe Cohen, Int. Director, Neuroscience</td>
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<td>Curric/Acad Committee</td>
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Submitted by

- Name: Wendy Brett
- Phone: 514-398-7330
- Email: wendy.brett@mcgill.ca
- Submission Date:  

To be completed by ARR:

- CIP Code:  

Program/Major or Minor/ Concentration Revision Form P2-3