1.0 **Degree Title**  
Specify the two degrees for concurrent degree programs

Bachelor of Science (B.Sc.)

1.1 **Major (Legacy = Subject) (30-char. max.)**
Neuroscience

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

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

1.4 **Category**
- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours Component (HC)
- Internship/Co-op
- Thesis (T)
- Non-Thesis (N)
- Other

Please specify

1.5 **Complete Program Title**
B.Sc.; Major in Neuroscience

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

2.1 **Offering Faculty/Department**
Medicine & Science: Depts. of Biology, Physiology, 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)

Term: 200909

4.0 **Existing Credit Weight**
67-68

4.1 **Proposed Credit Weight**
67-68

5.0 **Rationale for revised program**

- Improve the design of the Program by providing more appropriate options in each of the 3 streams. The changes are predicated on a change of content (and title) in one course (BIOL 306) and the incorporation of Immunology into the program because of its increasing importance in the study of the nervous system. The proposed changes were approved unanimously by the Neuroscience Curriculum Committee on October 14, 2008.

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 currently 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

**Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)**

**Core Required Courses (19 - 20 credits)**
- BIOL 200 (3) Molecular Biology
- CHEM 212* (4) Introductory Organic Chemistry 1
- NSCI 200 (3) Introduction to Neuroscience 1
- NSCI 201 (3) Introduction to Neuroscience 2
- NSCI 300 (3) Neuroethics
- NSCI 400D1/D2 (1) Neuroscience Seminar
- PSYC 311 (3) 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 (3) Introductory Behavioural Neuroscience
  - PSYC 212 (3) Perception
  - PSYC 213 (3) Cognition
- 3 credits from:
  - BIOL 373 (3) Biometry
  - PSYC 305 (3) Statistics for Experimental Design
- 3 credits from:
  - COMP 202 (3) Introduction to Computing 1
  or equivalent in Computer Science
- 3 credits from:
  - MATH 222** (3) Calculus 3
  - BIOL 309 (3) 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 (3) Cell Biology and Metabolism
    - or BIOC 212 (3) Molecular Mechanisms of Cell Function
    - BIOL 202 (3) Basic Genetics
    - BIOL 306 (3) Neurobiology
    - BIOC 311 (3) Metabolic Biochemistry
    - PHGY 311 (3) Channels, Synapses & Hormones
  - B. Neurophysiology/Neural Computation Stream (15 credits)
    - BIOL 201 (3) Cell Biology and Metabolism
    - or BIOC 212 (3) Molecular Mechanisms of Cell Function
    - ANAT 321 (3) Circuitry of the Human Brain
    - MATH 222** (3) Calculus 3
    - or PHGY 311 (3) Channels, Synapses & Hormones
    - PHGY 314 (3) Integrative Neuroscience

(See attached page)

### Proposed program

**Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)**

**Core Required Courses (19 - 20 credits)**
- BIOL 200 (3) Molecular Biology
- CHEM 212* (4) Introductory Organic Chemistry 1
- NSCI 200 (3) Introduction to Neuroscience 1
- NSCI 201 (3) Introduction to Neuroscience 2
- NSCI 300 (3) Neuroethics
- NSCI 400D1/D2 (1) Neuroscience Seminar
- PSYC 311 (3) 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.

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

(See attached page)
### 8.0 Consultation with Related Units

- **Yes**  
- **No**  

Financial Consult:  
- **Yes**  
- **No**  

Attach list of consultations

### 9. Approvals

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<td>Department</td>
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Submitted by

- **Name**: Wendy Brett
- **Phone**: 514-398-7330
- **Email**: wendy.brett@mcgill.ca
- **Submission Date**: October 22, 2008

To be completed by ARR:

- **CIP Code**