



(07/2004)

1.0 Degree Title Please specify the two degrees for concurrent degree programs Bachelor of Science (B. Sc.)	2.0 Administering Faculty/Unit Faculty of Science, Dean's Office, Multidisciplinary Program
1.1 Major (Legacy= Subject)(30-char. max.) Honours Neuroscience	Offering Faculty/Department Medicine and Science – Biology, Physiology & Psychology
1.2 Concentration (Legacy = Concentration/Option) If applicable to Majors only (30 char. max.)	3.0 Effective Term of Implementation (Ex. Sept. 2004 = 200409)
1.3 Minor (with Concentration, if Applicable) (30 char. max.)	Term: 201309

4.0 Rationale for new proposal
 The Neuroscience Major received formal approval by Quebec's Ministry of Education in August 2008 and is now entering its fifth year. Since the Major has now achieved maturity and stability, it seems appropriate to introduce an Honours program. Moreover, students in the Major have expressed considerable interest in the establishment of a Neuroscience Honours Program. Admission to Neuroscience Honours will be limited to 12-15 students at the end of their U1 year. The entrance requirement includes completion of both NSCI 200 and NSCI 201 in U1. Most or all of the students that we accept into Neuroscience Honours will likely come from the Neuroscience Major. Accordingly, it should add little if any additional registration pressure on the program's courses.

5.0 Program Information
 Please check appropriate box(es)

5.1 Program Type	5.2 Category	5.3 Level
<input checked="" type="checkbox"/> Bachelor's Program	Faculty Program (FP)	<input checked="" type="checkbox"/> Undergraduate
Master's	Major	Dentistry/Law/Medicine
M.Sc. (Applied) Program	Joint Major	Continuing Ed (Non-Credit)
Dual Degree/Concurrent Program	Major Concentration (CON)	Collegial
Certificate	Minor	Masters & Grad Dips & Certs
Diploma	Minor Concentration (CON)	Doctorate
Graduate Certificate	<input checked="" type="checkbox"/> Honours (HON)	Post-Graduate Medicine/Dentistry
Graduate Diploma	Joint Honours Component (HC)	Graduate Qualifying
Ph.D. Program	Internship/Co-op	Postdoctoral Fellows
Doctorate Program (Other than Ph.D.)	Thesis (T)	
Private Program	Non-Thesis (N)	
Off-Campus Program	Other	
Distance Education Program (By Correspondence)	Please specify	
Other (Please specify)		

6.0 Total Credits

74

7.0 Consultation with Related Units

Related Units	X	Yes	No
Financial Consult		Yes	X No

Attach list of consultations.

8.0 Program Description (Maximum 150 words)

The Honours program is intended for students who are interested in laboratory-based research and in acquiring a foundation in each of the 3 streams of the Neuroscience Major (cell and molecular; neurophysiology and computational; cognition and behavior). Students are admitted to the program after one year in a major.

The program is composed of 74 credits: 44 credits are required, including a 9-credit independent research project, and 30 credits are complementary. Because it is a limited-enrollment program, the entrance requirements for the Honours program are more stringent. Applicants must have taken a minimum of 27 graded credits in their U1 year, must have a CGPA of at least 3.50 and have obtained minimum grades of B+ in both NSCI 200 and NSCI 201, as well as a minimum grade of C in BIOL 200, BIOC 212 or BIOL 201, and CHEM 212. Additional requirements for applying are provided on the Neuroscience website: (www.mcgill.ca/neuroscience). Meeting the minimum requirements does not guarantee admission to the Honours Neuroscience Program.

To graduate from the program, students must have a CGPA of 3.30 and a minimum grade of B+ in NSCI 300, NSCI 400 and NSCI 430. "First Class Honours" is awarded to students who obtain a minimum cumulative grade point average of 3.70, a minimum program GPA of 3.30, and a minimum grade of B+ in NSCI 300, NSCI 400 and NSCI 430.

Students are strongly recommended to take REDM 410 as one of their complementary courses in their U3 year.

9.0 List of proposed program for the New Program/Major or Minor/Concentration.

If new concentration (option) of existing Major/Minor (program), please attach a program layout (list of all courses) of existing Major/Minor.

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

Required Courses (44 credits)

*Note: Students who have successfully completed an equivalent of CHEM 212 in CEGEP or elsewhere must replace these credits with a 3-credit elective course to satisfy the total credit requirement for the Neuroscience Honours Program.

ANAT 321 Circuitry of the Human Brain (3 credits)
BIOC 311 Metabolic Biochemistry (3 credits)
BIOL 200 Molecular Biology (3 credits)
CHEM 212 Introductory Organic chemistry 1 (4 credits)*
COMP 202 Foundations of Programming (3 credits)
NSCI 200 Introduction to Neuroscience 1 (3 credits)
NSCI 201 Introduction to Neuroscience 2 (3 credits)
NSCI 300 Neuroethics (3 credits)
NSCI 400 Neuroscience Seminar (1 credit)
NSCI 430 Neuroscience Honours Research Project (9 credits)
PHGY 311 Channels, Synapses & Hormones (3 credits)
PSYC 311 Human Cognition and the Brain (3 credits)
PSYC 318 Behavioural Neuroscience 2 (3 credits)

Complementary Courses (30 credits)

3 credits from:

BIOC 212 Molecular Mechanisms of Cell Function (3 credits)
BIOL 201 Cell Biology and Metabolism (3 credits)

3 credits from:

BIOL 373 Biometry (3 credits)
PSYC 305 Statistics for Experimental Design (3 credits)

3 credits from:

BIOL 309 Mathematical Models in Biology (3 credits)
MATH 222 Calculus 3 (3 credits)**

**Note: Students who have successfully completed an equivalent of MATH 222 in CEGEP or elsewhere must replace these credits with a 3-credit elective course to satisfy the total credit requirement for the Neuroscience Honours Program.

Attachment 1A – continuation of Section 9.0

The remaining 21 credits should be taken from the following lists. At least 15 of the 21 credits must be taken at the 400- or 500-level.

200- and 300-level courses:

BIOL 202 Basic Genetics (3 credits)
BIOL 300 Molecular Biology of the Gene (3 credits)
BIOL 301 Cell and Molecular Laboratory (4 credits)
BIOL 306 Neural Basis of Behaviour (3 credits)
BIOL 320 The Evolution of Brain and Behaviour (3 credits)
BIOL 389 Laboratory in Neurobiology (3 credits)
CHEM 222 Introductory Organic Chemistry 2 (4 credits)
COMP 206 Introduction to Software Systems (3 credits)
LING 390 Neuroscience of Language (3 credits)
MATH 315 Ordinary Differential Equations (3 credits)
MATH 323 Probability (3 credits)
MATH 324 Statistics (3 credits)
MIMM 214 Introduction to Immunology (3 credits)
MIMM 314 Immunology (3 credits)
NEUR 310 Cellular Neurobiology (3 credits)
PHAR 300 Drug Action (3 credits)
PHGY 210 Mammalian Physiology 2 (3 credits)
PHGY 314 Integrative Neuroscience (3 credits)
PSYC 213 Cognition (3 credits)
PSYC 302 The Psychology of Pain (3 credits)
PSYC 315 Computational Psychology (3 credits)
PSYC 317 Genes and Behaviour (3 credits)
PSYC 342 Hormones and Behaviour (3 credits)

400- and 500-level Courses:

*** Students may take either MATH 437 OR PHYS 413, but not both.

BIOL 514 Neurobiology of Learning and Memory (3 credits)
BIOL 530 Advances in Neuroethology (3 credits)
BIOL 532 Developmental Neurobiology Seminar (3 credits)
BIOL 588 Molecular/Cellular Neurobiology (3 credits)
BMDE 519 Biomedical Signals and Systems (3 credits)
MATH 437 Mathematical Methods in Biology (3 credits)***
MIMM 414 Advanced Immunology (3 credits)
MIMM 509 Inflammatory Processes (3 credits)
NEUR 550 Free Radical Biomedicine (3)
PHAR 562 General Pharmacology 1 (3)
PHGY 425 Analyzing Physiological Systems (3)
PHGY 451 Advanced Neurophysiology (3 credits)
PHGY 513 Cellular Immunology (3 credits)
PHGY 520 Ion Channels (3 credits)
PHGY 524 Chronobiology (3 credits)
PHGY 556 Topics in Systems Neuroscience (3 credits)
PHYS 413 Physical Basis of Physiology (3 credits)***
PSYC 410 Special Topics in Neuropsychology (3 credits)
PSYC 427 Sensorimotor Behaviour (3 credits)
PSYC 444 Sleep Mechanisms and Behaviour (3 credits)
PSYC 470 Memory and Brain (3 credits)
PSYC 501 Auditory Perception (3 credits)
PSYC 502 Psychoneuroendocrinology (3 credits)
PSYC 506 Cognitive Neuroscience of Attention (3 credits)
PSYC 522 Neurochemistry and Behaviour (3 credits)
PSYC 526 Advances in Visual Perception (3 credits)
PSYC 532 Cognitive Science (3 credits)
PSYT 455 Neurochemistry (3 credits)
PSYT 500 Advances: Neurobiol of Mental Disorders (3 credits)
PSYT 505 Neurobiology of Schizophrenia (3 credits)
REDM 410 Writing Research Articles (3 credits)

10.0 Approvals			
Routing Sequence	Name	Signature	Date
Department	Dr. Monroe Cohen	M. W. W.	Oct 30, 2012
Curric/Acad Committee			
Faculty 1	D. Ragsdale	<i>[Signature]</i>	Nov. 6/12
Faculty 2	E.C. Davis	<i>[Signature]</i>	Nov 6/12
Faculty 3			
SCTP			
GS			
APPC			
Senate			
Submitted by			
Name		To be completed by ARR:	
Phone		CIP Code	
Email			
Submission Date			