McGill

Program/Major or Minor/Concentration Revision Form

(07/2004)

1.0 Degree Title
Specify the two degrees for concurrent degree programs

B.Sc in Pharmacology

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

Pharmacology

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. Honours in Pharmacology

2.0 Administering Faculty/Unit

Faculty of Science

Offering Faculty/Department

Faculty of Medicine / Department of Pharmacology

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: 201309

4.0 Existing Credit Weight: 74

Proposed Credit Weight: 74

5.0 Rationale for revised program

see attached

6.0 Revised Program Description (Maximum 150 words)

Current Description:
The Honours program is designed as a preparation for graduate studies and research. In addition to the strong training provided by the Major program, it requires students to have direct research experience in a chosen area during their final year of study. Acceptance into the Honours program takes place in the Winter term of U2 and requires a CGPA of 3.30. Students who wish to enter the Honours program should follow the Major program; those who satisfactorily complete the first three terms with a CGPA of at least 3.30 and a mark of B or higher in core Pharmacology courses are eligible for admission. Applications can be obtained from the office of the Department of Pharmacology in the McIntyre Medical Building or on the departmental website

Revised:
The Honours program is designed as a preparation for graduate studies and research. In addition to the strong training provided by the Major program, it requires students to have direct research experience in a chosen area during their final year of study. Acceptance into the Honours program takes place in the Winter term of U2 and requires a CGPA of 3.50. Students who wish to enter the Honours program should follow the Major program; those who satisfactorily complete the first three terms with a CGPA of at least 3.50 and a mark of B+ or higher in core Pharmacology courses (PHAR 300, PHAR 301 and PHAR 303) are eligible for admission. Applications can be obtained from the office of the Department of Pharmacology in the McIntyre Medical Building or on the Departmental website.

7.0 List of existing program and proposed program

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

Attach extra page(s) as needed

5.0 Rationale for revised program:

Since its inception in 2009, the 21 students who have graduated with the B. Sc. Honours degree in Pharmacology have had a mean CGPA of 3.78. One of the requirements for the Honours program is a Research projects course (PHAR599). The proposed changes to the Program Description (CGPA requirement and grade requirement for core Pharmacology courses, i.e. setting the CGPA at 3.5) would have affected one student, which is unfortunate. However, they will help us to ensure that Faculty members are eager to host these students in the labs in the future. This is of concern to the Department since the dramatic increase in the number of students in the Majors program in the last two years is coincident with an overall decrease in CIHR funding (now the national average is 17%). It is also compatible with the excellence of the students in the Honours program to date. We have noted that other Honours programs (Microbiology and Biology) have the same CGPA (3.5) requirement.

The following courses are added to the Upper Level Complementary Course list in U3:

- ANAT 322 Neuroendocrinology
- CHEM 334 Advanced Materials
- EPIB 501 Population Health and Epidemiology
- PSYC 302 The Psychology of Pain
- PSYT 301 Issues in Drug Dependence
- PSYT 500 Advances; Neurobiology of Mental Disorders
- REDM 410 Writing Research Articles

7.0 List of existing program and proposed program

Existing Program List	Proposed Program List
U1 Required Courses (22 credits) * Students with prior credit for CHEM 212 may take an elective in place of this course. • BIOL 200 Molecular Biology (3 credits) • BIOL 202 Basic Genetics (3 credits) • CHEM 212 Introductory Organic Chemistry 1 (4 credits) * • CHEM 222 Introductory Organic Chemistry 2 (4 credits) • PHGY 209 Mammalian Physiology 1 (3 credits) • PHGY 210 Mammalian Physiology 2 (3 credits) • PHGY 212 Introductory Physiology Laboratory 1 (1 credit) • PHGY 213 Introductory Physiology Laboratory 2 (1 credit) **U2 Required Courses (16 credits)** • BIOC 311 Metabolic Biochemistry (3 credits) • BIOL 301 Cell and Molecular Laboratory (4 credits) • PHAR 300 Drug Action (3 credits) • PHAR 301 Drugs and Disease (3 credits) • PHAR 303 Principles of Toxicology (3 credits) **U3 Required Courses (18 credits)** * PHAR 599D1 and PHAR 599D2 are taken together. • PHAR 503 Drug Discovery and Development 1 (3 credits) • PHAR 558 Pharmacology Selected Topics (3 credits) • PHAR 562 General Pharmacology 1 (3 credits) • PHAR 563 General Pharmacology 2 (3 credits) • PHAR 599D1 Pharmacology Research Project (3 credits) * • PHAR 599D2 Pharmacology Research Project (3 credits) * **Complementary Courses (18 credits)** 18 credits selected as follows: 3 credits selected from (usually in Year 1): • ANAT 212 Molecular Mechanisms of Cell Function (3 credits) • BIOC 212 Molecular Mechanisms of Cell Function (3 credits) • BIOL 201 Cell Biology and Metabolism (3 credits) 3 credits selected from (usually in Year 2): • CHEM 203 Survey of Physical Chemistry (3 credits) • CHEM 204 Physical Chemistry/Biological Sciences 1 (3 credits) 3 credits selected from (usually in Year 2): • BIOL 373 Biometry (3 credits) • MATH 203 Principles of Statistics 1 (3 credits) • PSYC 204 Introduction to Psychological Statistics (3 credits)	**U1 Required Courses (22 credits)** * Students with prior credit for CHEM 212 may take an elective in place of this course. • BIOL 200 Molecular Biology (3 credits) • BIOL 202 Basic Genetics (3 credits) • CHEM 212 Introductory Organic Chemistry 1 (4 credits) * • CHEM 222 Introductory Organic Chemistry 2 (4 credits) • PHGY 209 Mammalian Physiology 1 (3 credits) • PHGY 210 Mammalian Physiology 2 (3 credits) • PHGY 212 Introductory Physiology Laboratory 1 (1 credit) • PHGY 213 Introductory Physiology Laboratory 2 (1 credit) **U2 Required Courses (16 credits)** • BIOC 311 Metabolic Biochemistry (3 credits) • BIOL 301 Cell and Molecular Laboratory (4 credits) • PHAR 300 Drug Action (3 credits) • PHAR 301 Drugs and Disease (3 credits) • PHAR 303 Principles of Toxicology (3 credits) **U3 Required Courses (18 credits)** * PHAR 599D1 and PHAR 599D2 are taken together. • PHAR 503 Drug Discovery and Development 1 (3 credits) • PHAR 558 Pharmacology Selected Topics (3 credits) • PHAR 562 General Pharmacology 1 (3 credits) • PHAR 563 General Pharmacology 2 (3 credits) • PHAR 599D1 Pharmacology Research Project (3 credits) * • PHAR 599D2 Pharmacology Research Project (3 credits) * **Complementary Courses (18 credits)** 18 credits selected as follows: 3 credits selected from (usually in Year 1): • ANAT 212 Molecular Mechanisms of Cell Function (3 credits) • BIOC 212 Molecular Mechanisms of Cell Function (3 credits) • BIOL 201 Cell Biology and Metabolism (3 credits) 3 credits selected from (usually in Year 2): • CHEM 203 Survey of Physical Chemistry (3 credits) • CHEM 204 Physical Chemistry/Biological Sciences 1 (3 credits) 3 credits selected from (usually in Year 2): • BIOL 373 Biometry (3 credits) • MATH 203 Principles of Statistics 1 (3 credits) • PSYC 204 Introduction to Psychological Statistics (3 credits)

9 credits selected from the following upper-level science courses: Committee approval is required to substitute an upper-level science course not in the list below. * Note: Students may take either ANAT 458 or BIOC 458. • ANAT 321 Circuitry of the Human Brain (3 credits) • ANAT 365 Cellular Trafficking (3 credits) • ANAT 458 Membranes and Cellular Signaling (3 credits) * • BIOC 312 Biochemistry of Macromolecules (3 credits) • BIOC 450 Protein Structure and Function (3 credits) • BIOC 454 Nucleic Acids (3 credits) • BIOC 458 Membranes and Cellular Signaling (3 credits) * • BIOL 300 Molecular Biology of the Gene (3 credits) • BIOL 303 Developmental Biology (3 credits) • BIOL 306 Neural Basis of Behaviour (3 credits) • BIOL 314 Molecular Biology of Oncogenes (3 credits) • BIOT 505 Selected Topics in Biotechnology (3 credits) • CHEM 302 Introductory Organic Chemistry 3 (3 credits) • CHEM 382 Organic Chemistry: Natural Products (3 credits) • CHEM 502 Advanced Bio-Organic Chemistry (3 credits) • CHEM 503 Drug Design and Development 1 (3 credits) • CHEM 504 Drug Design and Development 2 (3 credits) • CHEM 522 Stereochemistry (3 credits) • CHEM 552 Physical Organic Chemistry (3 credits) • EXMD 401 Physiology and Biochemistry Endocrine Systems (3 credits) • EXMD 504 Biology of Cancer (3 credits) • EXMD 511 Joint Venturing with Industry (3 credits) • MIMM 214 Introductory Immunology: Elements of Immunity (3 credits) • MIMM 387 The Business of Science (3 credits) • MIMM 414 Advanced Immunology (3 credits) • NEUR 310 Cellular Neurobiology (3 credits) • PATH 300 Human Disease (3 credits) • PHAR 504 Drug Discovery and Development 2 (3 credits) • PHGY 311 Channels, Synapses & Hormones (3 credits) • PHGY 312 Respiratory, Renal, & Cardiovascular Physiology (3 credits) • PHGY 313 Blood, Gastrointestinal, & Immune Systems Physiology (3 credits) • PHGY 314 Integrative Neuroscience (3 credits) • PHGY 520 Ion Channels (3 credits) • PSYC 311 Human Cognition and the Brain (3 credits) • PSYT 455 Neurochemistry (3 credits)	9 credits selected from the following upper-level science courses: Committee approval is required to substitute an upper-level science course not in the list below. * Note: Students may take either ANAT 458 or BIOC 458. • ANAT 321 Circuitry of the Human Brain (3 credits) • **ANAT 322 Neuroendocrinology (3 credits)** • ANAT 365 Cellular Trafficking (3 credits) • ANAT 458 Membranes and Cellular Signaling (3 credits) * • BIOC 312 Biochemistry of Macromolecules (3 credits) • BIOC 450 Protein Structure and Function (3 credits) • BIOC 454 Nucleic Acids (3 credits) • BIOC 458 Membranes and Cellular Signaling (3 credits) * • BIOL 300 Molecular Biology of the Gene (3 credits) • BIOL 303 Developmental Biology (3 credits) • BIOL 306 Neural Basis of Behaviour (3 credits) • BIOL 314 Molecular Biology of Oncogenes (3 credits) • BIOT 505 Selected Topics in Biotechnology (3 credits) • CHEM 302 Introductory Organic Chemistry 3 (3 credits) • **CHEM 334 Advanced Materials (3 credits)** • CHEM 382 Organic Chemistry: Natural Products (3 credits) • CHEM 502 Advanced Bio-Organic Chemistry (3 credits) • CHEM 503 Drug Design and Development 1 (3 credits) • CHEM 504 Drug Design and Development 2 (3 credits) • CHEM 522 Stereochemistry (3 credits) • CHEM 552 Physical Organic Chemistry (3 credits) • **EPIB 501 Population Health and Epidemiology (3 credits)** • EXMD 401 Physiology and Biochemistry Endocrine Systems (3 credits) • EXMD 504 Biology of Cancer (3 credits) • EXMD 511 Joint Venturing with Industry (3 credits) • ~~**MIMM 214 Introductory Immunology: Elements of Immunity (3 credits)**~~ **(removed)** • MIMM 387 The Business of Science (3 credits) • MIMM 414 Advanced Immunology (3 credits) • NEUR 310 Cellular Neurobiology (3 credits) • PATH 300 Human Disease (3 credits) • PHAR 504 Drug Discovery and Development 2 (3 credits) • PHGY 311 Channels, Synapses & Hormones (3 credits) • PHGY 312 Respiratory, Renal, & Cardiovascular Physiology (3 credits) • PHGY 313 Blood, Gastrointestinal, & Immune Systems Physiology (3 credits) • PHGY 314 Integrative Neuroscience (3 credits) • PHGY 520 Ion Channels (3 credits)

	• **PSYC 302 The Psychology of Pain (3 credits)** • PSYC 311 Human Cognition and the Brain (3 credits) • **PSYT 301 Issues in Drug Dependence (3 credits)** • PSYT 455 Neurochemistry (3 credits) • **PSYT 500 Advances: Neurobiology of Mental Disorders (3 credits)** • **REDM 410 Writing Research Articles (3 credits)**

8.0 Consultation with Related Units ☐ Yes ☒ No

Financial Consult ☐ Yes ☒ No

Attach list of consultations

9. Approvals

Routing Sequence	Name	Signature	Date
Department	Dr. Gerhard Multhaup		03 20, 13
Curric/Acad Committee	Dr. Barbara Hales	Barbara J Hales	March 19 2013
Faculty 1			
Faculty 2			
Faculty 3			
SCTP			
GS			
APPC			
Senate			

Submitted by

Name	Chantal Grignon
Phone	514-398-3623
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Submission Date	March 20, 2013

To be completed by ARR:

CIP Code