Program/Major or Minor/Concentration Revision Form

(07/2004)

1.0 Degree Title
Specify the two degrees for concurrent degree programs

1.1 **B.Sc.**

1.2 Concentration (Legacy = Concentration/Option)
If applicable (30 char. max.)
Honours in Chemistry with Materials option

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

1.4 Category

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

1.5 Complete Program Title
B. Sc. Honours in Chemistry with Materials Option

2.0 Administering Faculty/Unit
Science/Chemistry

Offering Faculty/Department

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: **201509**

4.0 Existing Credit Weight **74**

Proposed Credit Weight **74**

5.0 Rationale for revised program

Under Required courses, CHEM 283 replaces CHEM 253 and CHEM 263 in a credit-neutral change. We are changing MATH 315 from a required course to a complementary course. As a department, we decided that 3 credits of ordinary differential equations are not core to a degree in chemistry. This will enable us to return some flexibility to our programs that was removed by the addition of CHEM 332 as required to retain accreditation. An additional 3 credits of Complementary courses are being added to maintain the credit weight of the program.

6.0 Revised Program Description (Maximum 150 words)

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)

Required Courses (68 credits)
The required courses in this program consist of 65 credits in chemistry, physics and mathematics, listed below. The courses marked with an asterisk (*) are omitted from the program of students who have successfully completed them at the CEGEP level but the Chemistry courses must be replaced by courses in that discipline if students wish to be eligible for admission to the Ordre des chimistes du Québec. Students from outside Quebec or transfer students should consult the Academic Adviser.
See http://www.chemistry.mcgill.ca/advising/inside/advisors.php.

A computer science course, either COMP 202 or COMP 208, is strongly recommended during U1 for students who have no previous introduction to computer programming. Students should contact their adviser on this matter. Completion of Mathematics MATH 222 and MATH 315 during U1 is also strongly recommended. Physics PHYS 242 should be completed during U2.
* Denotes courses with CEGEP equivalents.
** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.
*** Students may take up to 12 Research Project credits but only 6 of these may be used to fulfil the program requirement.

CHEM 212 Introductory Organic Chemistry 1 (4 credits) *
CHEM 222 Introductory Organic Chemistry 2 (4 credits) *
CHEM 223 Introductory Physical Chemistry 1 (2 credits)
CHEM 243 Introductory Physical Chemistry 2 (2 credits)
CHEM 253 Introductory Physical Chemistry 1 Laboratory (1 credit)
CHEM 263 Introductory Physical Chemistry 2 Laboratory (1 credit)
CHEM 281 Inorganic Chemistry 1 (3 credits)
CHEM 287 Introductory Analytical Chemistry (2 credits)
CHEM 297 Introductory Analytical Chemistry Laboratory (1 credit)
CHEM 302 Introductory Organic Chemistry 3 (3 credits)
CHEM 332 Biological Chemistry (3 credits)
CHEM 334 Advanced Materials (3 credits)
CHEM 345 Molecular Properties and Structure 1 (3 credits)
CHEM 355 Molecular Properties and Structure 2 (3 credits)
CHEM 365 Statistical Thermodynamics (2 credits)
CHEM 367 Instrumental Analysis 1 (3 credits)
CHEM 377 Instrumental Analysis 2 (3 credits)
CHEM 381 Inorganic Chemistry 2 (3 credits)
CHEM 392 Integrated Inorganic/Organic Laboratory (3 credits)
CHEM 493 Advanced Physical Chemistry Laboratory (2 credits)
CHEM 470 Research Project 1 (6 credits)***
CHEM 574 Introductory Polymer Chemistry (3 credits)
MATH 222 Calculus 3 (3 credits) **
MATH 315 Ordinary Differential Equations (3 credits)
PHYS 242 Electricity and Magnetism (2 credits)

Complementary Courses (6 credits)
6 credits, two of:
* Students take either ANAT 542 or MIME 542.

ANAT 542 Transmission Electron Microscopy (3 credits) *
CHEM 462 Green Chemistry (3 credits)
CHEM 531 Chemistry of Inorganic Materials (3 credits)
CHEM 533 Small Molecule Crystallography (3 credits)
CHEM 534 Nanoscience and Nanotechnology (3 credits)
CHEM 571 Polymer Synthesis (3 credits)
CHEM 582 Supramolecular Chemistry (3 credits)
CHEM 585 Colloid Chemistry (3 credits)
MIME 260 Materials Science and Engineering (3 credits)
MIME 542 Transmission Electron Microscopy (3 credits) *

Attach extra page(s) as needed

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 (65 credits)
The required courses in this program consist of 65 credits in chemistry, physics and mathematics, listed below. The courses marked with an asterisk (*) are omitted from the program of students who have successfully completed them at the CEGEP level but the Chemistry courses must be replaced by courses in that discipline if students wish to be eligible for admission to the Ordre des chimistes du Québec. Students from outside Quebec or transfer students should consult the Academic Adviser.
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* Denotes courses with CEGEP equivalents.
** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.
*** Students may take up to 12 Research Project credits but only 6 of these may be used to fulfil the program requirement.

CHEM 212 Introductory Organic Chemistry 1 (4 credits) *
CHEM 222 Introductory Organic Chemistry 2 (4 credits) *
CHEM 223 Introductory Physical Chemistry 1 (2 credits)
CHEM 243 Introductory Physical Chemistry 2 (2 credits)
CHEM 283 Introductory Physical Chemistry 2 Laboratory (2 credits)
CHEM 281 Inorganic Chemistry 1 (3 credits)
CHEM 287 Introductory Analytical Chemistry (2 credits)
CHEM 297 Introductory Analytical Chemistry Laboratory (1 credit)
CHEM 302 Introductory Organic Chemistry 3 (3 credits)
CHEM 332 Biological Chemistry (3 credits)
CHEM 334 Advanced Materials (3 credits)
CHEM 345 Molecular Properties and Structure 1 (3 credits)
CHEM 355 Molecular Properties and Structure 2 (3 credits)
CHEM 365 Statistical Thermodynamics (2 credits)
CHEM 367 Instrumental Analysis 1 (3 credits)
CHEM 377 Instrumental Analysis 2 (3 credits)
CHEM 381 Inorganic Chemistry 2 (3 credits)
CHEM 392 Integrated Inorganic/Organic Laboratory (3 credits)
CHEM 493 Advanced Physical Chemistry Laboratory (2 credits)
CHEM 470 Research Project 1 (6 credits)***
CHEM 574 Introductory Polymer Chemistry (3 credits)
MATH 222 Calculus 3 (3 credits) **
PHYS 242 Electricity and Magnetism (2 credits)

Complementary Courses (9 credits)
9 credits, three of:
* Students take either ANAT 542 or MIME 542.

ANAT 542 Transmission Electron Microscopy (3 credits) *
CHEM 462 Green Chemistry (3 credits)
CHEM 531 Chemistry of Inorganic Materials (3 credits)
CHEM 533 Small Molecule Crystallography (3 credits)
CHEM 534 Nanoscience and Nanotechnology (3 credits)
CHEM 571 Polymer Synthesis (3 credits)
CHEM 582 Supramolecular Chemistry (3 credits)
CHEM 585 Colloid Chemistry (3 credits)
MIME 260 Materials Science and Engineering (3 credits)
MIME 542 Transmission Electron Microscopy (3 credits) *
MATH 315 Ordinary Differential Equations

8.0 Consultation with Related Units ☐ Yes ☒ No Financial Consult ☐ Yes ☒ No

Attach list of consultations

9. Approvals

Routing Sequence	Name	Signature	Date
Department			
Curric/Acad Committee			
Faculty 1			
Faculty 2			
Faculty 3			
SCTP			
GS			
APPC			
Senate			

Submitted by

Name	Amy S. Blum
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Submission Date	Oct 18. 2013

To be completed by ARR:

CIP Code