New Program/Major or Minor/Concentration Proposal Form

1.0 Degree Title
Please specify the two degrees for concurrent degree programs

B.Sc.

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

Major in Chemistry with Measurement Option

1.2 Concentration (Legacy = Concentration/Option)
If applicable to Majors only (30 char. max.)

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

2.0 Administering Faculty/Unit

Science/Chemistry

2.1 Offering Faculty/Department

Science/Chemistry

3.0 Effective Term of Implementation
(Ex. Sept. 2004 = 200409)

Term

201509

4.0 Rationale and Admission Requirements for New Proposal

Although the Chemistry Department has several program options, none currently target students interested in physics or analytical chemistry. The proposed program is to fill this hole in our offerings. This new program has been formulated in response to student requests. Over the last decade, there has been a larger emphasis on synthesis in our other program offerings with a decreased emphasis on numerical and instrumental offerings. This new program offers an option for chemistry students who are more interested in non-synthetic aspects of chemistry.

5.0 Program Information

Please check appropriate box(es)

5.1 Program Type

X Bachelor’s Program

☐ Master’s

M.Sc. (Applied) Program

Dual Degree/Concurrent Program

Certificate

Diploma

Graduate Certificate

Graduate Diploma

Ph.D. Program

Doctorate Program

(Other than Ph.D.)

Private Program

Off-Campus Program

Distance Education Program

(By Correspondence)

Other (Please specify)

5.2 Category

Faculty Program (FP)

X 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

5.3 Level

X Undergraduate

Dentistry/Law/Medicine

Continuing Studies (Non-Credit)

Collegial

Masters & Grad Dips & Certs

Doctorate

Post-Graduate Medicine/Dentistry

Graduate Qualifying

Postdoctoral Fellows

5.4 FQRSC (Research) Indicator
(for GPS) Yes ☐ No

6.0 Total Credits

62

6.1 Rationale

7.0 Consultation with Related Units

Yes ☐ No

Financial Consult

Yes ☐ No

Attach list of consultations.
8.0 Program Description (Maximum 150 words)

This is a B.Sc. program in chemistry with an emphasis on additional background and advanced courses of interest to physical and analytical chemists.

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

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

Program Requirements

PRE-PROGRAM REQUIREMENTS:
Students entering from the Freshman program must have included CHEM 110 and CHEM 120 or CHEM 115, BIOL 111 or BIOL 112, MATH 133, MATH 140/MATH 141 or MATH 150/MATH 151, PHYS 131/PHYS 142, or their equivalents in their Freshman year. Quebec students must have completed the DEC with appropriate science and mathematics courses. Note that students who have successfully completed MATH 150 and MATH 151 do not have to take MATH 222.

Required Courses (59 credits)
The required courses in this program consist of 59 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. Students completing this program will not be eligible for admission to the Ordre des chimistes du Québec without additional chemistry electives. This program is not currently accredited by the Canadian Society for Chemistry. See http://www.chemistry.mcgill.ca/advising/inside/advisors.php.

Completion of Mathematics MATH 222 and MATH 315 during U1 is strongly recommended.
* Denotes courses with CEGEP equivalents.
** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.

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 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 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 493 Advanced Physical Chemistry Laboratory (2 credits)
CHEM 575 Chemical Kinetics (3 credits)
MATH 222 Calculus 3 (3 credits) **
MATH 223 Linear Algebra (3 credits)
MATH 315 Ordinary Differential Equations (3 credits)
COMP 208 Computers in Engineering (3 credits)
PHYS 241 Signal Processing (3 credits)
PHYS 242 Electricity and Magnetism (2 credits)

Complementary courses (3 credits)
Choose one of:
CHEM 514 Biophysical Chemistry (3 credits)
CHEM 516 Nuclear and Radiochemistry (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 547 Laboratory Automation (3 credits)
CHEM 555 NMR Spectroscopy (3 credits)
CHEM 556 Quantum Chemistry (3 credits)
CHEM 567 Chemometrics: Data Analysis (3 credits)
CHEM 577 Electrochemistry (3 credits)
CHEM 565 Colloid Chemistry (3 credits)
CHEM 599 Statistical Mechanics (3 credits)
CHEM 597 Spectroscopy (3 credits)
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Submitted by

Name
Phone
Email
Submission Date

To be completed by ARR:

CIP Code