Bachelor of Science – Chemistry 2019/20

MOUNT ROYAL UNIVERSITY 1910 | Faculty of Science and Technology

Name: _____
Student #: _____

YEAR ONE – FALL		
CHEM 1201 FW	General Chemistry – Structure and Bonding	
MATH 1200 FW	Calculus for Scientists I	
PHYS 1201 FW	Classical Physics I	
GNED Foundation Cluster 1 FW		
GNED Foundation Cluster 4 FW		
YEAR ONE - WINTER		
CHEM 1202 FW	General Chemistry – Introduction to Quantitative Chemistry	
MATH 2200 FW	Calculus for Scientists II (Prerequisite: Mathematics 1200 with a grade of C- or higher)	
PHYS 1202 FW	Classical Physics II (Prerequisites: Mathematics 1200 and Physics 1201, both with a grade of C- or higher)	
COMP 2001 FW	Computer-Based Problem Solving for the Sciences	
GNED Foundation Cluster 2 or 3 FW		
YEAR TWO – FALL		
CHEM 2101 FW	Organic Chemistry I (Prerequisites: Chemistry 1201 and Chemistry 1202, both with a grade of C- or higher)	
CHEM 2301 F	Analytical Chemistry I: Quantitative Analysis (Prerequisites: Chemistry 1202 and Mathematics 1200, both with a grade of C- or higher)	
MATH 1203 FW	Linear Algebra for Scientists and Engineers	
PHYS 2201 F	Acoustics, Optics and Radiation (Prerequisites: Mathematics 1202 or 2200 and Physics 1201, both with a grade of C- or higher)	
GNED Foundation Cluster 3 or 2 FW		
YEAR TWO – WINTER		
CHEM 2102 FW	Organic Chemistry II (Prerequisite: Chemistry 2101 with a grade of C- or higher)	
BCEM 2201 FW	General Biochemistry (Prerequisite: Chemistry 2101 with a grade of C- or higher)	
CHEM 2302 W	Analytical Chemistry II: Introduction to Instrumental Analysis (Prerequisite: Chemistry 2301 with a grade of C- or higher)	
MATH 3200 W	Mathematical Methods (Prerequisites: Mathematics 1202 or 2200 and Mathematics 1203, both with a grade of C- or higher)	
CHEM 2601 W	Introduction to Physical Chemistry (Prerequisites: Chemistry 1201, Chemistry 1202, Mathematics 1200, and Physics 1201; all with a grade of C- or higher)	
YEAR THREE – FALL		
CHEM 2401 F	Inorganic Chemistry (Prerequisites: Chemistry 1201 and Chemistry 1202, both with a grade of C- or higher)	
CHEM 3601 F	Thermodynamics (Prerequisites: Chemistry 1201, Chemistry 1202, Physics 1202 and Mathematics 1202 or 2200, all with a grade of C- or higher or department consent)	
CHEM 3201 F	Structure Determination (Prerequisite: Chemistry 2102 with a grade of C- or higher.)	
GNED Tier 2 Cluster 2 FW		
GNED Tier 2 Cluster 3 FW		
YEAR THREE – WINTER		
CHEM 3200 W	Research Methods in Chemistry (Prerequisites: Chemistry 2302 and Computer Science 2001, both with a grade of C- or higher)	
CHEM 3602 W	Elementary Quantum Mechanics (Prerequisites: Mathematics 1203, Mathematics 1202 or Mathematics 2200, and Physics 2201 with grades of "C-" or higher, or department consent. Recommended Preparation: Chemistry 2601 and Mathematics 3200)	
CHEM 3701 W		
GNED Tier 2 Cluster 4 FW		
Elective		
YEAR FOUR – FALL		
Approved Option*		
Approved Option*		
GNED Tier 3		
GNED Tier 3		
Elective		
YEAR FOUR – WINTER		
Approved Option*		
Approved Option*		
GNED Tier 3		
Elective		
Elective		

PLEASE READ:

General Education: General Education approved courses, otherwise known as "GNED requirements" are designed to give you a well-rounded knowledge base and are organized into four (4) thematic clusters. Each Cluster has 3 levels; tier 1 (foundation), tier 2 and tier 3.

Cluster 1: Numeracy & Scientific Literacy.
Cluster 2: Values, beliefs & Identity
Cluster 3: Community & Society
Cluster 4: Communication

Students must take a foundation level course from each of the four clusters and three tier 2 GNEDs (one from each of cluster 2, 3, and 4), and three tier 3 GNEDs from at least 2 clusters, for a total of 10 GNED courses.

Visit mtroyal.ca/gened/courses for more information and a list of GNED courses.

Junior courses: are courses at the 1000 level. Students are allowed a maximum of 16 junior courses for graduation purposes.

Electives: an elective is any 3 credit course. It is advised that students in this major select senior level electives wherever possible to avoid exceeding the 16 junior course limit.

*** Approved Options**: a listing of courses offered for students without a concentration can be found below. Note that most of these courses will be offered in *alternating years*. Students will take four of the following courses as Approved Options:
BCEM 4212 FW – Biochemical Pharmacology
CHEM 4103 W –Advanced Organic Chemistry: Synthesis
CHEM 4213 W– Drug Discovery
CHEM 4301 F – Advanced Analytical Chemistry
CHEM 4411 W – Organometallic Chemistry and Catalysis
CHEM 4701 F – Molecular Modelling
CHEM 4801 W – Nuclear Chemistry
CHEM 4603 F – Symmetry and Spectroscopy

Prerequisites & Course descriptions: can be found in the Academic Calendar or by visiting: mtroyal.ca/ProgramsCourses/CourseListings

Advising Plan: Students are strongly advised to follow the progression of classes and course load indicated below. Deviation from the recommended course pattern may result in scheduling conflicts.

To be considered full time a student must be enrolled in a minimum of 9 credit hours or three, 3- credit courses.

F Indicates that the course runs in Fall semester only.
W Indicates that the course runs in Winter semester only.
FW Indicates that the course is offered in both Fall and Winter semester.

This document is only intended to be a guide for students and should be used together with the Mount Royal University Academic Calendar which states academic policies and degree requirements. Be sure to consult with your Academic Advisor to confirm graduation requirements or if you have any questions.