Bachelor of Science – Chemistry 2024-25
Concentration in Analytical Biochemistry

MOUNT ROYAL UNIVERSITY
Faculty of Science and Technology

✓	YEAR ONE - Fall	✓	YEAR ONE - Winter
	CHEM 1201 - General Chemistry - Structure & Bonding		BIOL 1202- Introduction to Cell Biology
	MATH 1200 - Calculus for Scientists I		CHEM 1202 - General Chemistry – Introduction to Quantitative Chemistry
	PHYS 1201- Classical Physics I		PHYS 1202- Classical Physics II
	GNED Foundation Cluster 1:one of GNED 1101 or 1103		MATH 2200- Calculus for Scientists II
	GNED Foundation Cluster 4: one of GNED 1401, 1403 or 1404		GNED Foundation Cluster 2: one of GNED 1201, 1202, or 1203

Many courses are prerequisites for upper year courses. Check prerequisites at http://catalog.mtroyal.ca/

✓	YEAR TWO - Fall	✓	YEAR TWO - Winter
	CHEM 2101- Organic Chemistry I**		CHEM 2102- Organic Chemistry II**
	CHEM 2301- Analytical Chemistry I**		BCEM 2201- General Biochemistry**
	BIOL 1204- The Evolution of Eukaryotes		BIOL 2101- Genetics
	CHEM 2601 - Physical Chemistry		COMP 2001- Computer-Based Problem Solving
	GNED Foundation Cluster 3: one of GNED 1301, 1303, or 1304		GNED Tier 2 Cluster 2:

******** *All courses with notation are strongly recommended to be taken in the semester they are place in order to support a 4 year completion of the degree. It is your responsibility to plan your schedule and make sure that you are meeting the necessary prerequisites. Consider consulting your advisor if you are planning on reducing your course load.*

YEAR THREE – Complete the following courses

✓	CORE Requirements:	✓	General Education and Electives:
	CHEM 2302- Analytical Chemistry II** (CSL course)		GNED Tier 2 Cluster 3:
	CHEM 2401 - Inorganic Chemistry		GNED Tier 2 Cluster 4:
	CHEM 3200 - Research Methods (CSL course)		Elective:
	CHEM 3601 - Thermodynamics		
	BIOL 2202 - Cellular and Molecular Biology		
	BCEM 3201 - Protein Biochemistry		
	BCEM 3202 - Enzymes and Metabolic Systems		

YEAR FOUR – Complete the following courses

✓	CORE Requirements:	✓	General Education and Electives:
	CHEM 4301- Advanced Analytical Chemistry		GNED Tier 3:
	BCEM 4201- Lipids and Membranes		GNED Tier 3:
	BCEM 4210- Topics of Structural Biology		GNED Tier 3:
	BCEM 5200- Analytical Biochemistry in a Community Context		Elective:
			Elective
			Elective

PLEASE READ:

Prerequisites and course descriptions can be found in the Academic Calendar under the 'courses' link by visiting: https://catalog.mtroyal.ca/

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 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 from each of the four clusters, three tier 2 GNEDs (one from each of cluster 2, 3, and 4), and a total of three tier 3 GNEDs from at least two clusters, for a total of 10 GNED courses. For more information and a list of GNED courses, visit mru.ca/gned and click 'courses' on the left-hand navigation

Junior courses are courses at the 1000 level. Students are allowed a maximum of 16 junior courses.

Electives: an elective is any three-credit course. It is advised that students select senior level electives wherever possible to avoid exceeding the sixteen junior course limits.

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

CSL - Community Service Learning: three CSL courses are needed to receive this citation on your transcript, learn more here: mru.ca/csl

Declaring this Concentration: to declare the Analytical Biochemistry concentration, you must email studentrecords@mtroyal.ca with your student ID number.