

Bachelor of Science – Chemistry 2026-27

Concentration in Analytical Biochemistry

IMPORTANT NOTE:

The Chemistry program planning guide is heavily designed with prerequisites already in mind. Due to the program being a smaller intake at this time, each 'core' course has limited offerings per academic year.

To ensure your program progression path is as smooth as possible, it is highly recommended that students follow this guide when it comes to planning their CHEM, PHYS, MATH, and BCEM courses. Taking these courses out of sequence (early or late) will result in progression issues and effect the degree completion timeline.

✓	YEAR ONE - Fall	✓	YEAR ONE - Winter
	CHEM 1201 - General Chemistry - Structure & Bonding		CHEM 1202 - General Chemistry – Introduction to Quantitative Chemistry
	PHYS 1201 - Classical Physics I		PHYS 1202 - Classical Physics II
	MATH 1200 - Calculus for Scientists I		MATH 2200 - Calculus for Scientists II
	GNEC Foundation Cluster 1: one of GNEC 1101 or 1103		COMP 2001 - Computer-Based Problem Solving
	GNEC Foundation Cluster 4: one of GNEC 1401, 1403 or 1404		GNEC Foundation Cluster 3: one of GNEC 1301, 1303, or 1304

✓	YEAR TWO - Fall	✓	YEAR TWO - Winter
	BIOL 1202 - Introduction to Cell Biology		BIOL 1204 - The Evolution of Eukaryotes
	CHEM 2101 - Organic Chemistry I		CHEM 2102 - Organic Chemistry II
	CHEM 2301 - Analytical Chemistry I		CHEM 3200 - Research Methods
	CHEM 2601 - Physical Chemistry		BCEM 2201 - General Biochemistry
	GNEC Foundation Cluster 2: one of GNEC 1201, 1202, or 1203		GNEC Tier 2 Cluster 2:

✓	YEAR THREE - Fall	✓	YEAR THREE - Winter
	BIOL 2101 - Genetics		BIOL 2202 - Cellular and Molecular Biology
	CHEM 2401 – Inorganic Chemistry		CHEM 3301 – Analytical Chemistry II
	CHEM 3601 - Thermodynamics		BCEM 3202 – Enzymes and Metabolic Biology
	BCEM 3201 – Protein Biochemistry		GNEC Tier 2 Cluster 4:
	GNEC Tier 2 Cluster 3:		Elective:

✓	YEAR FOUR - Fall	✓	YEAR FOUR - Winter
	CHEM 4301 – Advanced Analytical Chemistry		BCEM 5200 – Analytical Biochemistry in a Community Context
	BCEM 4201 – Lipids and Lipidomics		BCEM 4210 – Topics in Structural Biology
	GNEC Tier 3:		GNEC Tier 3:
	GNEC Tier 3:		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/>

Declaring this Concentration: to declare the Analytical Biochemistry concentration, you must fill out the following [form](#). Alternatively you can email studentrecords@mtroyal.ca with your student ID number. You must between Year 1 and Year 2 in order to not receive delays in your graduation timeline.

General Education: General Education approved courses, otherwise known as "GNEC 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 GNECs (one from each of cluster 2, 3, and 4), and a total of three tier 3 GNECs from at least two clusters, for a total of 10 GNEC courses. For more information and a list of GNEC 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.