

# Bachelor of Science – Geology 2026-27

## IMPORTANT NOTE:

The Geology program planning guide is heavily designed with prerequisites already in mind. To ensure your program progression pathway is as smooth as possible, it is highly recommended that students follow this guide when planning their GEOL, CHEM, PHYS, and MATH courses. Taking these courses out of sequence (early or late) will result in progression issues and effect the degree completion timeline.

## PLEASE READ:

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

✓	YEAR ONE - Fall	✓	YEAR ONE - Winter
	GEOL 1201 - The Dynamic Earth		GEOL 1202 - Earth Through Time
	CHEM 1201 - General Chemistry – Structure and Bonding		MATH 1203 - Linear Algebra for Scientists and Engineers
	MATH 1200 - Calculus for Scientists I		COMP 2001 - Computer-Based Problem Solving for the Sciences
	PHYS 1201 - Classical Physics I		GNEED Foundation Cluster 2: one of GNEED 1201, 1202, or 1203
	GNEED Foundation Cluster 1: one of GNEED 1101 or 1103		GNEED Foundation Cluster 4: one of GNEED 1401, 1403 or 1404

✓	YEAR TWO - Fall	✓	YEAR TWO - Winter
	GEOL 2300 - Introduction to Geological Field Methods I (6 days in August, 1.5 CR)		
	GEOL 2103 - Minerals and Rocks		GEOL 2105 - Structural Geology
	GEOL 2109 - Stratigraphy & Sedimentation		GEOL 2107 - Paleontology
	PHYS 1202 - Classical Physics II		GEOL 2111 - Crystallography and Optical Mineralogy
	CHEM 1202 - General Chemistry: Introduction to Quantitative Chemistry		GNEED Tier 2 Cluster 2
	GNEED Foundation Cluster 3: one of GNEED 1301, 1303, or 1304		GNEED Tier 2 Cluster 3

✓	YEAR THREE - Fall	✓	YEAR THREE - Winter
	GEOL 3300 - Geological Field Methods II (6 days in August, 1.5 CR)		
	GEOL 3107 - Geomorphology		GEOL 3103 - Igneous Petrology
	GEOL 3109 - Sedimentary Petrology		GEOL 3111 - Metamorphic Petrology
	GEOL 3115 - Exploration Geophysics		GEOL 3113 - Geochemistry
	GNEED Tier 2 Cluster 4		GEOL 4XXX - Advanced Geology Option
	GNEED Tier 3		GNEED Tier 3

✓	YEAR FOUR - Fall	✓	YEAR FOUR - Winter
	GEOL 4300 - Advanced Geological Field Methods (2 weeks in August, 3 CR)		
	GEOL 4105 - Hydrogeology		GEOL 4109 - Petroleum Geology
	GEOL 4107 - Geological History of Western Canada		GEOL 4111 - Ore Deposits and Economic Geology
	MATH 2235 - Statistics with Applications in Geology		GEOL 4XXX - Advanced Geology Option
	Elective		GNEED Tier 3

## GEOL 4XXX – Advanced Geology Options:

Choose **TWO** of the following courses:

- GEOL 4101 – Advanced Topics in Sedimentary Geology
- GEOL 4103 – Advanced Topics in Igneous & Metamorphic Geology
- GEOL 4515 – Sedimentary Basin Analysis
- GEOL 4601 – Plate Tectonic Regimes

*Please note: Not all options listed above are offered every year and you should consult your program-assigned Academic Advisor if you would like to plan for a particular option.*

**General Education:** General Education approved courses, otherwise known as “GNEED 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 GNEEDs (one from each of cluster 2, 3, and 4), and a total of three tier 3 GNEEDs from at least two clusters, for a total of 10 GNEED courses. For more information and a list of GNEED courses, visit [mru.ca/gned](http://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.

Mount Royal's Geology program meets the Geoscience knowledge and experience requirements for professional registration in Canada. Please see the APEGA website for more information. [APEGA: The Association of Professional Engineers and Geoscientists of Alberta.](http://www.apega.ca/)

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.