

# Bachelor of Science - Geology 2023-24

✓	YEAR ONE - Fall	✓	YEAR ONE - Winter
	GEOL 1101 - The Dynamic Earth		GEOL 1103 - 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		GNED Foundation Cluster 4: one of GNE 1401, 1403 or 1404
	GNED Foundation Cluster 1: one of GNE 1101 or 1103		GNED Foundation Cluster 2: one of GNE 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
	GEOL 2103 - Minerals and Rocks		GEOL 2111 - Crystallography and Optical Mineralogy
	GEOL 2109 - Stratigraphy and Sedimentation		GEOL 2107 - Paleontology
	CHEM 1202 - General Chemistry: Introduction to Quantitative Chemistry		GEOL 2105 - Structural Geology
	PHYS 1202 - Classical Physics II		GNED Tier 2 Cluster 2
	GNED Foundation Cluster 3: one of GNE 1301, 1303, or 1304		GNED Tier 2 Cluster 3
	GEOL 2300 - Introduction to Geological Field Methods I (6 days in August, 1.5 CR)		

✓	YEAR THREE - Fall	✓	YEAR THREE - Winter
	GEOL 3115 - Exploration Geophysics		GEOL 3103 - Igneous Petrology
	GEOL 4105 - Hydrogeology		GEOL 3111 - Metamorphic Petrology
	GEOL 4107 - Geological History of Western Canada		GEOL 3113 - Geochemistry
	GNED Tier 2 Cluster 4		GEOL 4XXX - Advanced Geology Option
	Elective		GNED Tier 3
	GEOL 3300 - Geological Field Methods II (6 days in August, 1.5 CR)		

Take two Tier 3 courses from a minimum of two different clusters  
Take the third Tier 3 course from any cluster

✓	YEAR FOUR - Fall	✓	YEAR FOUR - Winter
	GEOL 3107 - Geomorphology		GEOL 4109 - Petroleum Geology
	GEOL 3109 - Sedimentary Petrology		GEOL 4111 - Ore Deposits and Economic Geology
	MATH 2235 - Statistics with Applications in Geology		GEOL 4XXX - Advanced Geology Option
	GNED Tier 3		GNED Tier 3
	GEOL 4300 - Advanced Geological Field Methods (2 weeks in August, 3 CR)		

\*The *Fall/Winter* notations indicate when you should be planning to take core courses. Certain core courses may have prerequisites that need to be completed in a particular sequence to avoid delays in graduation. In addition, some courses are only offered in one semester. If there is no notation, this course should be completed in year two but may be offered in either semester. It is your responsibility to plan your schedule and make sure that you are meeting necessary requirements. Consider consulting your advisor if you are uncertain or require clarification.

## GEOL 4XXX - Advanced Geology Options:

Choose **TWO** of the following courses to satisfy this requirement for graduation:

- 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 READ:

**Prerequisites and course descriptions: can be found in the Academic Calendar under the 'courses' link at <http://catalog.mtroyal.ca/>**

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

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

**Elective:** an elective is any three-credit course. It is advised that students select a senior level elective to avoid exceeding the sixteen junior course limits.

## Field Schools & Trips:

These courses will be held for approx. 12-14 days after the end of the Winter semester or before the start of the Fall semester. In addition to Field Schools, individual courses may include Field Trips as part of the curriculum. These trips are typically 1-2 days in length but may be longer.

**Advising Plan:** This is a suggested sequence for taking the required courses for your major. This plan factors in prerequisite requirements and will allow you to complete your degree in four years, provided you complete five courses per semester. This is just one example of how you can complete your degree requirements; you may find that a different sequence or a lighter course load works better for you.

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 as a guide for students and should be cross-referenced with the Mount Royal University Academic Calendar which states academic policies and degree requirements. Be sure to consult with your Academic Advisor to confirm scheduling, graduation requirements, or if you have any questions at [scitechadvising@mtroyal.ca](mailto:scitechadvising@mtroyal.ca)