

<b>Course ID:</b>	<b>Course Title:</b>	<b>Winter 2023</b>
<b>GEO 109 -1</b>	<b>Introduction to Geology</b>	<b>Prerequisite: none</b>
		<b>Credits: 3</b>

Class Information		Instructor Information		Important Dates	
<b>Delivery:</b>	In Class	<b>Instructor:</b>	Dr. Stephen Jeans	<b>First day of classes:</b>	January 9, 2023
<b>Days:</b>	Monday	<b>Email:</b>	sjeans@ambrose.edu	<b>Last day to add/drop:</b>	January 22, 2023
<b>Time:</b>	5:30 - 8:30 pm	<b>Phone:</b>	403-410-2000 ext. 6939 office, 403-612-4203 cell	<b>Last day to withdraw:</b>	March 31, 2023
<b>Room:</b>	A 2131	<b>Office:</b>	L2111	<b>Last day to apply for extension:</b>	April 3, 2023
<b>Lab/ Tutorial:</b>	Sat., Apr. 1, 8 am - 6 pm fieldtutorial Drumheller	<b>Office Hours:</b>	Mon. 3:30 - 5 pm, Wed./Fri. 11 am - 12 noon, or by appointment	<b>Last day of classes:</b>	April 14, 2023
<b>Final Exam:</b>	Mon., Apr. 24, A2131, 6:30 - 9:30 pm				

### Important Dates and Information

For a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>.

### Course Description

This course looks at the composition and structure of the Earth – surface and internal processes, rocks and minerals. This course includes out-of-class tutorials and field trips including a trip to the Royal Tyrrell Museum.

*This course has an existing transfer credit agreement through Alberta Council on Admissions and Transfer. Visit [www.transferalberta.ca](http://www.transferalberta.ca) for details.*

### Expected Learning Outcomes

Students will be able to:

- knowledge*
- explain the vast relative scale of geologic time and of the process of rock formation and change,
  - express an understanding of research and thought/theory about geologic and other Earth processes,
  - identify and distinguish among minerals, rock types, and fossil evidence in earth materials,
  - relate knowledge of interior processes of Earth's dynamic crust and implications for surface activity,
  - develop a working knowledge of the geologic time scale and historical planetary rock and life events,

- explain origins of physical matter and importance of Earth resources available for human consumption,

*skill*

- conduct experiments that model geologic processes to explain stratigraphy and earth movement,
- observe surficial material and formation to develop testable inferences of type, origin, and structure,
- use calibrated instruments to identify and explain properties of Earth materials and their likely history,
- enact essential research and practices to become a student of science and of geology,

*attitude*

- relate a sense of appreciation for the importance of Earth materials regarding human existence, and
- express an understanding of the significance and coexistence of science and of faith.

**Textbooks**

Wicander, Reed, and Monroe, James S., (2021). *Geology Earth in Perspective, 3rd Edition*. Boston, MA: Cengage.  
 ISBN-13: 978-0-357-70404-2

notes: see the Lions Bookstore, at Ambrose University, or instant access online on our Moodle course page, also acceptable are previous textbook editions by the same authors (when in doubt ask your course professor).

**Course Schedule**

Below is a tentative schedule, subject to change, as circumstances require (guest speaker, etc.).

See our **Course Reader** on Moodle for specific page numbers of Chapter readings (not all pages are required).

*Weeks with yellow highlight background indicate off-campus learning, green for outdoor experience for portion of class.*

Week	Date	Reading	Topic/Activity	Required, Notes, and Activities Due
01	Jan. 09	Chapter 1 Chapter 2	dynamic Earth and plate tectonics	(Note: each week [if no exam] requires handing in Exit Slip, often Week's Work.)
02	Jan. 16	Chapter 3	minerals make rock	
03	Jan. 23	Chapter 4 Chapter 5	igneous rock and volcanism	
04	Jan. 30	Chapter 6	weathering and sedimentary rock	
05	Feb. 06	Chapter 7 Chapter 8	metamorphic rock and quakes	
06	Feb. 13		<b>Midterm exam</b>	
	Feb. 20		<b>NO CLASS – Family Day</b>	
07	Feb. 27	Chapter 9 Chapter 10	deformation and mass wasting	
08	Mar. 06	Chapter 11 Chapter 12 Chapter 15	rock; stream, groundwater, ocean	
09	Mar. 13	Chapter 13 Chapter 14	rock; glacial, wind, desert	
10	Mar. 20	Chapter 16	geologic time	

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11	Mar. 27	Chapter 18	life history	likely outdoor activity for portion of class
	Saturday Apr. 01		Southern Alberta Fieldtutrial Drumheller and Royal Tyrrell Museum	bus leaves campus at 8:00 a.m. sharp, returns ~6:00 p.m., see preparation details listed on Moodle
12	Apr. 03	Chapter 17	Earth's paleo geology and geography	

## Requirements

**Week's Work** are weekly learning-related tasks. Format varies considerably with concept taught. Students can expect to practice pen and paper problems for some activities and make observations of rocks and fossils for others. There will be small group and large group activities that include handing in the product of that work. As much as possible the bulk of the Week's Work is conducted in-class with course professor and peer support. Some out-of-class research and revision ensures the highest mark possible. The Fieldtutrial trip, including work in Drumheller, is a part of this mark.

**Exit Slips** are short checks of student understanding, feedback for both professor and learner to improve as the term progresses. At the conclusion of a week's class meeting, a brief graded quiz or activity, about five minutes; for example, about five questions, a diagram, or a short paragraph.

The **Midterm exam** is mid-way through the course during regularly scheduled class time. Content arises from the course to that point. Anticipate a Part I -- short exam, varied question formats, consistent with class activities and Exit Slips. Part II -- practical activity in keeping with class work. For accommodation, see your course professor.

The **Final exam**, scheduled by the **Registrar's Office**, consists of content coming from the second half of the course. Format similar to the Midterm. For accommodation, see your course professor. **Students must ensure they are available for the final exam.** Vacations, flights, employment, etc. are NOT valid reasons for a deferred examination.

## Accommodation

Universal Design for Learning is used in the development of this course. Exams (midterm, final) provide students with additional time (<1.5x to 2x regular time to complete exams), and other accommodations. See your instructor.

## Health and Safety

To keep our community safe, stay home if you are unwell (symptomatic or not) with any illness that is communicable (COVID, flu or cold virus, etc.). Students are expected to be physically present, however, following recent protocol (of staying at home until well and then on your return masking for five days) is the best kindness you can show to others. Contact your course instructor to discuss arrangements that ensure you keep current with learning and course standing. Should the need arise, this course may be delivered online (e.g., through Zoom and Moodle modules). If your instructor becomes ill (but mainly asymptomatic) then class work will move online (synchronous or asynchronous).

## Attendance

Attendance is mandatory. *Introduction to Geology* provides discipline-based fundamentals supported by professional data from the field, demonstrations, practical reinforcement activities, and participatory interaction. As a result, in-person activities, conducted in scheduled class time, count toward assessed course components, leaving greater time for reading, research, and study.

Lectures are not simulcast/streamed nor provided online. Make the course professor aware of an absence cause as soon as possible for the possibility of retaining course standing. If you are ill, stay home. The course professor responds typically within a day about class expectations and in assisting you with alternate arrangements for excused absence.

**Grade Summary:**

*Grading Schedule*

Week’s Work exercises	20%	eight anticipated (~one per class) with fieldtutorial (count ×2)
Exit Slip	20%	ten anticipated (~one per class)
Mid-term written examination	30%	mix of short questions and practical possible
Final written examination	<u>30%</u>	mix of short questions and practical possible, non-cumulative
Total: 100%		

**Late assignments** accepted at the course professor’s discretion. Mark is reduced by 10% / day (weekends count as a day), but, 5% / day possible if the student is in contact with the instructor ahead of the deadline, and onward until complete. No makeup session for missed Week’s Work, Exit Slip, Midterm, or Final exam, without cause and at the course professor’s digression.

Note that a breach of **academic integrity** (plagiarism, cheating, falsification, etc.) typically results in a mark of zero, at the instructor’s digression. Academic misconduct is an action, whether actual, attempted, or assistance provided to another, in relation to academic and scholarly activity, whether deliberate or inadvertent, that is dishonest, misrepresents information, or creates unfair advantage.

The available letters for course grades are as follows:

Grade	Numeric equivalent	Interpretation	Grade Points
A+	100	<b>Mastery:</b> Comprehensive understanding of subject matter	4.00
A	95		4.00
A-	90		3.70
B+	85	<b>Proficient:</b> Well-developed understanding of subject matter	3.30
B	81		3.00
B-	76		2.70
C+	71	<b>Basic:</b> Developing understanding of subject matter	2.30
C	67		2.00
C-	62		1.70
D+	59	<b>Minimal Pass:</b> Limited understanding of subject matter	1.30
D	55		1.00
F	up to 49%	<b>Failure:</b> Failure to meet course requirements	0.00
P	P/F	<b>Pass</b>	No grade points

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g., percentages) and the resultant letter grade will depend on the nature of the course and the instructor’s assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

## **Other**

### *Hallway and outdoor work*

Some activities are out-of-class or outdoors to take advantage of large spaces and to teach about natural wonders or physical processes. Advance notice permits the securing of personal items and dressing responsibly for these classes.

### *Equipment use*

To reinforce concepts encountered during this course, participants observe and/or take part in multiple demonstrations and laboratory work that includes the use of equipment. Safety is an expectation of each student for themselves, for the well-being of others in the class, and for the preservation of Ambrose facilities, apparatus, and sample materials. When conducting work in the classroom or in the field, be observant of proper procedure and check that others around you are not at risk. Report any concerns or incidents immediately to your instructor.

### *Technology*

Students are encouraged to **bring a laptop** to class for digital simulations and science research activities. Regarding cellphones, laptops, and other electronic devices -- out of respect for others, **turn off audible alerts** during class time. Non-course related use, especially distractions, are not permitted.

### *Supplementary course fee*

A supplementary course fee charged by the Registrar's Office covers expenses related this course; the primary cost is associated with registration and transportation on the fieldtutorial. Should the trip need to be virtual, due pandemic or other reason, your course professor will discuss reimbursement of a portion of this fee with administration/Registrar.

### *Library*

Ambrose University Library has a wealth of connections to online materials/sites, please inquire about this resource. There is a copy of the course textbook available for short-term loan and reading, please inquire about that.

## Ambrose University Important Information

### Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions.

### Exam Scheduling

Students who find a conflict in their exam schedule must submit a *Revised Final Exam Time Application* to the Office of the Registrar by the deadline noted in the Academic Calendar. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; or 2) the scheduled final examination slot results in three consecutive examination periods. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

### Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

### Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/academics/academic-calendar>

### Privacy

Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at [privacy@ambrose.edu](mailto:privacy@ambrose.edu).

### Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and registrar. Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course. A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

## Academic Success and Supports

### Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that

may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

### **Learning Services**

Learning Services provides support with

- General study skills (e.g., time management, note-taking),
- Research and communication skills (e.g., writing a paper, researching, giving a presentation), and
- Subject-specific skills (e.g., solving a chemistry problem, reconciling a general ledger, understanding a philosophical argument).

We offer workshops, one-to-one tutoring, and more, and all of our services are free to students currently enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/sas/learning-services>.

### **Mental Health Support**

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

#### On Campus:

- Counselling Services: [ambrose.edu/counselling](https://ambrose.edu/counselling)
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention Skills and can help you access mental health support. See <https://ambrose.edu/student-life/crisissupport> for a list of staff members.
- For additional wellness resources go to the Ambrose wellness page: <https://ambrose.edu/wellness>

#### Off Campus:

- Distress Centre - 403-266-4357
- Alberta Mental Health Helpline - 1-877-303-2642 (Toll free)
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

### **Sexual Violence Support**

We are committed to supporting students who have experienced gender based sexual violence in the past or while at Ambrose. Many of the staff, faculty, and student leaders have received Sexual Violence Response to Disclosure training. We will support you and help you find the resources you need and you can access information about reporting. Information about the Sexual Violence policy and on and off campus supports can be found on our website– [ambrose.edu/sexual-violence-response-and-awareness](https://ambrose.edu/sexual-violence-response-and-awareness).

#### Off Campus:

- Alberta's Oneline for Sexual Violence - 1-866-403-8000 call or text
- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888
- Chat: [www.calgarycasa.com](http://www.calgarycasa.com)

**Note:** Students are strongly advised to retain this syllabus for their records.