

<b>Course ID:</b>	<b>Course Title:</b>	<b>Winter 2017</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>Days:</b>	Mondays	<b>Instructor:</b>	Dr. Stephen Jeans	<b>First day of classes:</b>	Wed., Jan 4, 2017
<b>Time:</b>	5:30 - 8:30 p.m.	<b>Email:</b>	sjeans@ambrose.edu	<b>Last day to add/drop, or change to audit:</b>	Sun, Jan. 15, 2017
<b>Room:</b>	A2133	<b>Phone:</b>	(403) 284-3630	<b>Last day to request revised exam:</b>	Mon, Mar. 6, 2017
<b>Lab/ Tutorial:</b>	during class time and one Saturday	<b>Office:</b>	L 2078	<b>Last day to withdraw from course:</b>	Fri, Mar. 17, 2017
		<b>Office Hours:</b>	by appointment	<b>Last day to apply for coursework extension:</b>	Mon, Mar. 29, 2017
<b>Final Exam:</b>	Monday, April 19, 2017 Room A 1085 (Airhart), 5:30 p.m. to 8:30 p.m. (both classes -1 and -2)			<b>Last day of classes:</b>	Tue, April 11, 2017

### 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.transferralberta.ca](http://www.transferralberta.ca) for details.*

### Expected Learning Outcomes

Introduction to Geology connects your understanding about Earth to topics of knowledge and fields of scientific study. Topics include: formation of Earth, internal and external structure and features; minerals and rock composition; controlling processes, breakdown, reformation, and redistribution of rock material; earthquakes, water, glaciation, fossils, and geologic time; and, awareness of the research, impacts, and issues of geologic forces and resources on Canada and around the world.

At the conclusion of the course 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 the body 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 the implications for geological surface activity,
- develop a working knowledge of the geologic time scale and major historical rock and life events of the planet,
- explain the origins of physical matter and importance of the Earth resources available for human consumption,

(skill)

- conduct experiments that model geologic processes to explain stratigraphy and earth movement,
- observe surficial materials and formations to develop testable inferences about type, origin, and internal structure,
- use calibrated instruments to identify and explain the 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 and the importance of Earth and the materials of it to human existence, and
- express an understanding of the significance and coexistence of science and of faith.

### Textbooks

Wicander, Reed, and Monroe, James S., (2013). *GEOL2: Student Edition*. Brooks/Cole: Belmont, CA -Cengage. ISBN-13: 978-1-133-10869-6 [and includes Printed Access Card (12 Months) for CengageNow]

### Course Schedule

A tentative schedule is proposed below, and is therefore subject to change, because of learning exercises and opportunities that may take advantage of resources, outdoor activity, and/or guest speakers interjected at the instructor's discretion. Planned for the course are readings and topics in the following order:

Date	Reading	Topic	Note [information for that activity]
01-09	Chapter 01 & 02	Science, Belief, and Dynamic Earth and Tectonics	
01-16	Chapter 03	Minerals and Specimen Identification	
01-23	Chapter 05 & 04	Volcano and Volcanism, and Igneous Rock	P.E.T. ROCK lab, bring rock
02-30	Chapter 11 & 06	Moving Water, and Sedimentary Rock	P.E.T. ROCK lab, bring rock
02-06	Chapter 12+extra	Groundwater, and Fossilization and Fossils	P.E.T. ROCK lab, bring rock
02-13	Chapter 08 & 07	Quakes and the Interior, and Metamorphic Rock	P.E.T. ROCK lab, bring rock
02-20		NO CLASS	NO CLASS [Family Day Holiday]
02-27	Chapter 09 & 10	Deformation and Building, and Mass Movement	Midterm Exam [~45 min.], then class
03-06	Chapter 13 & 14	Glacier and Glaciation, and Wind and Desert	
03-13	Chapter 15	<b>P.E.T ROCK DUE</b> -- Ocean and Shore Process	wear attire for wet and messy/dirty lab
03-20	Chapter 16	Geologic Time	
03-27	Chapter 18	Life History	
04-01*+extra reading		SATURDAY* Fieldtutorial travel to Drumheller	leaving 8:00 sharp - 18:00 approx. return
04-03	Chapter 17	Earth History	
04-10	+extra reading	Canadian Geologic Resources and Distribution	

## **Requirements:**

### *Assignments*

During the progress of most every lesson in this course, in-class assignments and/or an exit slip will be expected before a student leaves for the evening. The content and marking of each day's work will depend on the type of assignment. However, exit slips will typically consist of two to five questions that can be answered in about 5 to 10 minutes.

An assignment called 'P.E.T. ROCK' will be demonstrated and discussed in class. The assignment is a term project that is due a few weeks prior to the end of the course. P.E.T. ROCK is an opportunity for students to fully engage in the course material through conducting research and investigating a sample of rock that is property of the university program in support of academic learning. This assignment includes a written, researched, component (a few pages in length) and requires multiple geologic investigations using university laboratory equipment with permission of the instructor.

### *Field Study*

Mandatory for this course is a one-day Field Study Tutorial trip to southern Alberta stops, from Ambrose campus to the Badlands. Late in the term on a Saturday, students will travel together by bus and, during stops, apply much of their learning toward examining the geology of the prairies and on an educationally enriched tour of the Royal Tyrell Museum of Paleontology in Drumheller. Due to the latter being in a climate controlled facility, Field Study will likely take place regardless of weather--so dress appropriately, warm!

Occasionally, class may include moving outdoors on campus and/or within the Mahood Commons (Ambrose campus green space) for field work and laboratory experiments (weather permitting, e.g., no snow storm). Every attempt will be made to inform students about such opportunities before class begins. Watch for an email from your instructor and posting on Moodle for updates.

### *Cautions and Student Equipment*

To reinforce concepts encountered during this course, participants will be asked to observe and/or take part in multiple demonstrations and laboratory work that will include 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.

## **Attendance:**

Class attendance is mandatory. Participation in class activities is mandatory. Points lost through excused absence can be discussed with the instructor and suitable alternate arrangements made at the instructor's discretion.

Exit-slip Journal and Assignment marks (30%) -- A component for marking is handed-in each class, and each component has a count of 5 marks. Points will be summed up at the end of term and divided in half to produce the 30% grade.

## Grade Summary:

### Grading Schedule

Exit Journal and/or class assignments	30%	
Mid-term written examination	20%	multiple-choice questions, practical component (e.g., classify rock)
'P.E.T. ROCK' assignment	25%	
Final written examination	25%	multiple-choice questions, practical component, ~non-cumulative
Total: 100%		

The available letters for course grades are as follows:

<u>Letter grade</u>	<u>Cut-off value</u>	<u>Numeric equivalent</u>	<u>GPA</u>	<u>Description</u>
A+	96	100		
A	91	95	4.0	Excellent
A-	86	90	3.7	
B+	82	85	3.3	
B	75	81	3.0	Good
B-	72	74	2.7	
C+	68	71	2.3	
C	63	67	2.0	Satisfactory
C-	60	62	1.7	
D+	56	59	1.3	
D	50	55	1.0	Minimal Pass
F		49	0.0	Failure

Late assignments may be accepted at instructor's digression -- if contact and arrangements are made, however the mark achieved may be reduced by 5%/day (up to 10%/day if no contact is attempted prior to the due-date-class or if that class is not attended).

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 the student registration system. Printed grade sheets are not mailed/emailed out.

### Other:

Some general class resources may be available online through the University Moodle site. Resources to be printed and brought to class will be posted and announced at least a week before. For help on how to access these files please see the computer helpdesk.

## Ambrose University Academic Policies:

### 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. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

### Registration

During the **Registration Revision Period** students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline**; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

### Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

### Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student

to use a laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. 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).

### Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

### Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

### 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 college. 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.

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