

Introduction to Geology GEL160

Instructor:

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Office hours: Tuesday and Thursday 9:00-2:00 (please contact me so that I know you are coming).

Required:

Text: **Earth: An Introduction to Physical Geology, 11/E**; 2014. Edward J. Tarbuck, Frederick K. Lutgens, and Dennis Tasa; ISBN-13: 9780321814067

Lab Manual: **Laboratory Manual in Physical Geology, 9/E**; 2012. Richard M. Busch; ISBN-13: 9780321689573

Other Materials: **Introductory Earth Science Collection (Rocks & Minerals)**, available from Follett's Bookstore; **Ward's Rock & Mineral Test Kit**, available from Follett's Bookstore

Course Description:

The course covers minerals, rocks, earthquakes and volcanoes. It also covers the landscapes and behaviors of continents and oceans. Diagrams, photographs, topographic maps, Internet resources and hands-on exercises are utilized to support the concepts. Course includes a laboratory component.

Prerequisites: ENG 085 and ENG 090**

Upon completing this course students will retain a skill-set derived from critical thinking and scientific methodology. This skill-set can be used in science classes following physical geology, and in problem solving through-out their lives. Although this course is an introductory class, introductory does not translate into easy. This course does not require background knowledge in geology. It will require effort to build the scientific foundation and the philosophical underpinnings of critical thinking and scientific thought. Students will have to spend time studying the material to succeed. For this course, you should expect to study 12 hours a week, and depending on your study skill-set, this time commitment may increase or decrease. You are responsible for the resulting grade that you shall receive.

Week	Dates	Chapter Readings	Lab Reading	Lab Exercises
1	26 Aug - 1 Sept	1, Intro to Geology, 2, Plate Tectonics		
2	2 Sept - 8 Sept	12, Earth's Interior	Lab 1, Observing & Measuring Earth Materials & Processes	1.1, 1.3
3	9 Sept - 15 Sept	9, Geologic Time, Exam 1 (1, 2, 9, & 12)	Lab 8, Dating of Rocks, Fossils, & Geological Events	8.1, 8.2, 8.6
4	16 Sept -22 Sept	3, Matter and Minerals	Lab 3, Mineral Properties, etc. Lab Quiz 1 (Labs 1, 3, & 8)	3.1, 3.2, 3.4 (for all kit samples)
5	23 Sept - 29 Sept	4, Igneous Rocks	Lab 5, Igneous Rocks	5.2, 5.3, 5.5
6	30 Sept - 6 Oct	7, Sedimentary Rocks	Lab 6, Sedimentary Rocks	6.1, 6.4, 6.5, 6.9
7	7 Oct - 13 Oct	8, Metamorphic Rocks, Exam 2 (3, 4, 7, & 8)	Lab 7, Metamorphic Rocks Lab Quiz 2 (Labs 5, 6, & 7)	7.1, 7.2
8	14 Oct - 20 Oct	13, Divergent Boundaries, 14, Convergent Boundaries		
9	21 Oct - 27 Oct	5, Volcanoes	Lab 2, Plate Tectonics & Magma	2.1, 2.3, 2.4, 2.5
10	28 Oct - 3 Nov	10, Crustal Deformations, 11, Earthquakes, Exam 3 (5, 10, 11, 13, & 14)	Lab 16, Earthquake Hazards	16.2, 16.3, 16.4
11	4 Nov - 10 Nov	16, Running Water, 17, Groundwater	Lab 12, Groundwater Processes Lab Quiz 3 (Labs 2, 12, & 16)	12.1, 12.2, 12.3
12	11 Nov - 17 Nov	6, Weathering & Soil	Lab 9, Topographic Maps, etc.	9.1, 9.2, 9.4

13	18 Nov - 24 Nov	18, Glaciers & Glaciation	Lab 13, Glacial Processes	13.1, 13.2, 13.3
14	25 Nov - 1 Dec		Lab Final (Cumulative)	
15	2 Dec - 8 Dec	Exam 4 (6, 16, 17, & 18)		

Schedule is tentative and subject to change.

Important Dates***: Refer to the Deans' web page

Point Distribution:

E1	E2	E3	E4											ET
100	100	100	100											400
LQ1	LQ2	LQ3	LF											LT
30	30	30	50											140
D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8	D 9	D 10	D 11	D 12	D 13	D 14	DT
10	10	10	10	10	10	10	10	10	10	10	10	10	10	140
														Total

E=Exam

LQ=Lab Quiz

LF=Lab Final

D=Discussion

ET=Exam Total

LT=Lab Total

DT=Discussion Total

Unit Exams:

There will be four unit exams in the course. Exams consist of 100 multiple choice questions. You will complete the exams remotely (online). Exams are timed (2 hours) and no materials (books, notes, etc) may be used during the exam. Exams will be available for you to take immediately, but you must complete the exam by the dates listed above.

You have one opportunity to take each exam. If you lose power or internet connection, you must supply official documentation (a letter from your ISP or power company) in order to have a second attempt at the exam (no exceptions). I highly recommend taking the exam from a reliable internet connection (e.g. a campus computer), or having a backup (e.g. cell phone) connection. Before attempting an exam, I also highly recommend that you attempt the practice

exam to troubleshoot for browser/connection errors. As this is an online course, the burden of understanding technology and supplying access to the internet is on you (the student). If you have technology issues, you may always contact the JCC Solution Center (<http://www.jccmi.edu/informationtechnology/solcen.htm>).

Exam scores may be normalized (curved) to 70%.

Given the flexible nature of the exams there will be no make-up exams offered.

Course Objectives:

Upon completing this course I will be able to:

- ◆ Understand how the nature of science is a result of the content, process, and communication; and, how this process is self-correcting.
- ◆ Identify the big ideas in scientific discourse including how levels of scientific hierarchy pertain to properties of geology.
- ◆ Integrate information of natural processes that govern the natural world into laboratory and field practice.
- ◆ Critically evaluate data drawn from tests of natural phenomena to establish a scientific baseline.
- ◆ Understand the connections among conduction, convection, radiation, pressure, and scale as they relate to Earth's lithosphere.
- ◆ Understand how the mechanisms of geology, physics, chemistry, and biology interact to create emergent processes in scientific systems.

Associate Degree Outcomes:

All JCC graduates should develop or enhance certain essential skills while enrolled in college, as defined by the Board of Trustees. The Associate Degree Outcomes addressed in this class are:

ADO 4: Scientific Reasoning. Students will be able to design and carry out valid experiments to assess a given hypothesis, and to draw appropriate conclusions based on the results.

ADO 7: Critical Thinking. Students will learn to critically analyze and interpret scientific data from scientific experiments, as in the analysis carried out in numerous labs that involve interpreting and graphing data.

Incompletes - Consistent with JCC policy, incompletes are granted with instructor permission only in situations where a student is passing the course after 90% of the course is completed and encounters an unusual emergency that prevents them from completing coursework.

Extra Credit - is not given in the course. Focus your time and energy on completing course assignments and studying for lab quizzes and lecture exams.

Course Help and Special Needs - if you have special needs that I should be aware of in order to help you to best learn course material, please let me know as soon as possible. Students

requiring special assistance (including those affected by the Americans with Disabilities Act) should contact the Center for Student Success in Bert Walker Hall, Room 123, 796-8415. Tutoring services are free at JCC - if at any point in the course you feel that you would benefit from a tutor, contact me and/or the CSS.

Computer Resources – reliable computer access is necessary for this course, as course materials can be accessed only through JetNet. I will post announcements and grades, as well as many other course materials like discussion through this system. Simply type in the URL <http://jetnet.jccmi.edu/> and enter your login information.

Grading Scale - Grades will be rounded to the nearest percent. Grades may be curved at the instructor's discretion.

<u>PercentGrade</u>		<u>PercentGrade</u>		<u>PercentGrade</u>	
90 - 100%	4.0	75 – 79 %	2.5	60 – 64 %	1.0
85 – 89 %	3.5	70 – 74 %	2.0	55 – 59 %	0.5
80 – 84 %	3.0	65 – 69 %	1.5		

Student Responsibilities:

Attendance – This is an online class, every time you log on to the class a date-stamp, login time, and activity is stored in the system. While formal attendance is not taken in this class your participation is tracked within the system.

Keep Up With Homework - If you miss class, it is your responsibility to stay on schedule. Class assignments cannot be made up.

Contribute to a courteous learning environment – Our class time is valuable. Please be punctual, especially on exam days, to avoid disruption to others and to be aware of class announcements. Anyone who interferes with the learning of others will be asked to leave class. This includes talking while I am talking, using cell phones or other devices during class, or being disruptive or disrespectful to others.

Study - This is a difficult course that will take significant study time outside of class. You will need to use the text and electronic resources, review notes and do study questions to prep for exams and lab quizzes.

Discussion - Discussion is important for reflection and formative self-assessment. You should be prepared to discuss the material related to geology and pertinent to the current curricular goal. Participation in the class discussion is a component of your final grade.

Academic Honesty Policy

Academic honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others' work as their own, either by plagiarism, by cheating, or by helping others to do so.

Plagiarism is the failure to give credit for the use of material from outside sources. Plagiarism includes but is not limited to:

- Using data, quotations, or paraphrases from other sources without adequate documentation
 - Submitting others' work as your own
 - Exhibiting other behaviors generally considered unethical

Cheating means obtaining answers/material from an outside source without authorization. Cheating includes, but is not limited to:

- Plagiarizing in all forms
- Using notes/books without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical

Collaboration

While JCC encourages students to collaborate in study groups, work teams, and with lab partners, each student should take responsibility for accurately representing his/her own contribution.

Consequences/Procedures

A faculty member who suspects a student of academic dishonesty may penalize the student by taking appropriate action up to and including assigning a failing grade for the paper, project, report, exam or the course itself. Instructors should document instances of academic dishonesty in writing to the Dean of Faculty.

Student Appeal Process

In the event of a dispute, both students and faculty should follow the Conflict Resolution Policy. The policy is presented in the Student Rights and Responsibilities section of the student handbook. The first step of this process is to set up a scheduled conference with the **instructor** to discuss the issues of concern.

Student Responsibility

The syllabus is a contract between instructor and student. If there are questions, it is the responsibility of the student to obtain clarification from the instructor in a timely manner. The student is responsible for completing assignments and deliverables by the stated deadlines, and must make a good faith effort to participate.

In order to participate in this course, I require you to submit a short blurb that you have read and understand the syllabus on JetNet, and agree to abide by all course policies. Please do so now under the Syllabus Acknowledgement section of our class site on JetNet.