

Geology 111 – Exploring the Earth

Prerequisites: none (you must be enrolled in a lab section also).

Course goals: Geology is the study of Earth, our one and only home. Geologists study Earth materials, the processes that shape Earth's surface, and the events that sometimes make Earth hazardous to humans. Geologists also study Earth's long history, including the history of life. Geologic knowledge allows geologists to predict the location of natural resources such as oil and natural gas, the probability of natural hazards in a specific location, and the results of human impacts on Earth processes. When you are done with this course you should be able to:

- Recognize common Earth materials and understand their geologic origins.
- Understand how Earth materials are changed/recycled in the rock cycle.
- Understand the theories of plate tectonics and isostasy.
- Understand how geologists learn about our Earth.
- Recognize the importance of geology to modern societies.
- Recognize that Earth has a unique and interesting history.
- Explain how gravity, streams, and glaciers shape Earth's surface.
- Understand the history and causes of climate change.

Who should take this course: Everyone on the planet should take a geology course! Geology is one of the most interesting of all the physical sciences. It is also one of the most practical. This class satisfies the Foundation Category for Natural Science.

Special needs: If there is any student in this class who has special needs because of a learning, physical, or other disability, please contact the Office of Academic Support at 331-2490. If you need special accommodation it will need to be approved by this office.

Laboratory: All students in enrolled in this class should also be enrolled in the lab that meets once a week

Textbooks: Marshak, Stephan, 2001, *Earth: Portrait of a Planet*: W.W. Norton & Company, New York, 735 p. *Lab Manual for Geology 111*. Both books are available at the bookstore.

Grading: Generally my grading scale works out to be A = 90-100%, B = 80-90%, C 70-80%, D = 55-70%, F = less than 55%. I will tell you how the rest of the class did after each exam. Don't get caught off guard as the first midterm is only 6 weeks away.

Exams and Homework: There will be a mini-exam, two midterm exams and a final. The mini-exam will be worth 5%. The midterms will be worth 10% and 15% of your final grade and a comprehensive final exam will be worth 25% of your grade. There will be two homework/reading assignments worth 8% of your grade. There will be eight in-class assignments worth a total of 12%. The in-class assignments can not be made up if you are not in class that day. You will be able to drop your lowest two scores (including zeros) on the in-class assignments. Your lab grade will count for 25% of your final grade.

Absences: All students are expected to come to class. In class exercises can not be made up for credit. Students who come to class generally do much better than those who do not. I will take role and this information will be given consideration when the final grades are assigned.

7 Study Tips: 1. Come to class, take notes, and ask questions; 2. Read the textbook; 3. Rewrite your notes to organize them; 4. Study geology in a quiet place for 1-2 hours a day; 5. Study in groups before the quizzes and exams; 6. Be able to explain what something is or how a process works in writing or by using a sketch; 7. Go to the library and browse geology books to see other examples of what are in your textbook and class notes.

"Whatever you are, be a good one." Abraham Lincoln

"Success is the sum of smart efforts, repeated day in and day out." Robert Collier

Important Dates to remember

January 9, 2004 (5 p.m.) – Last day to add/drop with 100% refund

January 30, 2004 (Friday) – **Mini-Exam**

February 16-21, 2004 – Midterm Evaluations

February 20, 2004 (Friday) – **First Midterm Exam**

February 27, 2004 (5 p.m.) – Last day to drop a class

March 1-7 – Spring Break

March 26, 2004 (Friday) - **Second Midterm Exam**

April 20, 2004 (Tuesday at 12-1:50 p.m.) - **Final Exam**

Geology 111: Exploring the Earth - Course Calendar

<u>Week</u>	<u>Topic</u>	<u>readings from textbook</u>
1	Introduction to Geology Origin of the Universe and Solar System A Model of the Earth	prelude (p.3-11) chapter 1 (p.15-32) chapter 2 (p. 35-49)
2	Atoms, Elements, and Minerals	appendix A (A1-A12) chapter 5 (p.109-128)
3	Minerals and Rocks Igneous Rocks	interlude A (p. 129-135) chapter 6 (p. 137-159)
4	Volcanism Weathering Mini-Exam	chapter 9 (p. 237-267) chapter 7 (p. 163-176)
5	Sediment and Sedimentary Rocks	chapter 7 (p. 176-199)

	Sedimentary Rocks and Fossil Fuels	chapter 14 (p. 427-444)
6	Metamorphic Rocks Rock Cycle	chapter 8 (p. 203-226) interlude B (p. 227-233)
7	Relative and absolute age dating First Midterm Exam	chapter 12 (p. 365-393)
8	Structural Geology and Geological Mapping Earthquakes and Earth's Interior	chapter 11 (p. 319-348) Chapter 10 (p. 269-307) interlude C (p. 308-316)
9	Continental Drift	chapter 3 (p. 51-75)
10	Plate Tectonics	chapter 4 (p. 77-104)
11	Mass Wasting Second Midterm Exam	Interlude E (p. 472-479) chapter 16 (p. 481-505)
12	Groundwater Streams	chapter 19 (p. 581-609) chapter 17 (p. 507-543)
13	Glaciers	chapter 22 (p. 667-704)
14	Atmosphere, Climate, and Global Change	chapter 20 (p.611-643) chapter 23 (p. 707-735)
15	Final Exam	