

Geology 141 - Physical Geology Spring 2007

Instructor: Christian Schrader

Office: Pierce Hall

Office Hours: Wednesday, 10-12

Lecture sections: T, Th: 10-11:15 or 11:30-12:45

Lab sections: T: 2:30-5:30, or Th: 2:30-5:30

Text: Earth: An Introduction to Physical Geology, 8th edition, by Tarbuck and Largens

Lab Text: Laboratory Manual In Physical Geology, 7th edition, ed. by Busch

Geology is a science that pervades all parts of our lives. Accordingly, we will cover a broad range of material in this class: internal and surficial processes that result in our planet's landforms; geologic hazards; mineral, hydrocarbon, and water resources; and the larger physical and chemical processes that govern our solar system. Geology 141 is designed for the Geology/Environmental Science major but is an appropriate science course for anyone pursuing a liberal arts education. Though there are no prerequisites, this is a rigorous science course, and you will find some of the concepts challenging. You will be expected to keep up with your reading, to pay attention in class and lab, and to ask questions.

Reading assignments

There is not enough time for us to cover the necessary material entirely in class. You must read the text assignments before coming to class, and you must at least peruse the lab assignments before attempting the exercises. I expect you to use the lectures to reinforce your reading and thoughts and to have questions prepared. You will be responsible for the text readings on the exams. I reserve the right to give short quizzes on the reading at the beginning of lecture.

Attendance and participation

Attending class, preparing for class, answering questions, and participating in discussions will make up 5% of your grade. There are no excused absences for lab, and students will lose one point off their final grade for every lecture absence starting with the fourth.

Week

Lecture Topic

Reading Assignment

Lab

Th 1/18

Introduction and Overview of Course; Nature of Science, History of Geology
Ch. 1

Tu 1/23

Th 1/25

Geologic Time

Plate Tectonics

Ch. 9

Ch. 2

1: Observing and Measuring

Tu 1/30

Th 2/1

Plate Tectonics

2: Plate Tectonics

Tu 2/6

Th 2/8

Exam 1

Minerals

Ch. 3

3: Mineral Identification

Tu 2/13

Th 2/15

Igneous Rocks

Volcanoes

Ch. 4

Ch. 5

5: Igneous Rocks and Volcanoes

Tu 2/20

Th 2/22

Volcanoes

Weathering and Soil

Ch. 6

6 & 7: Sed. and Met. Rocks

Tu 2/27

Th 3/1

Sedimentary Rocks

Sedimentary. Environments

Ch. 7

6 & 7: Sed. and Met. Rocks

Tu 3/6

Th 3/8

Review

Exam 2

7: Met Rocks

Tu 3/20

Th 3/22

Metamorphic Rocks

Rocks Quiz

Ch. 8

9: Topo Maps

Tu 3/27

Th 3/29

Crustal Deformation (Structure)

Mountains

Ch. 10

10: Struct. Geology

Tu 4/3

Th 4/5

Earthquakes

Exam 3

Ch. 11

10: cont.,

Tu 4/10

Th 4/12

Running Water

Groundwater

Ch. 16

Ch. 17

11: Running Water1

17: G'water

Tu 4/17

Th 4/19

Coastal Processes

Energy Resources/Global Warming

Ch. 20

Ch. 21: 621-44

20: Shores

Tu 4/24

Th 4/26

Energy and Mineral Resources

Review

Ch. 21: 644-55

13: Glaciers

Tu 5/1

Planetary Geology

Ch. 22

Honor Code

In general, you may work with others on lab exercises. Exams and quizzes are to be completed alone and without outside material. Please familiarize yourself with Oxford's honor code, and please ask me if you have any questions.

Grading

3 lecture exams will be worth 10% each	30%
Final exam	15%
Lecture quizzes, projects, etc.	20%
Average of lab exercises and exam	30%
Class participation	5%