

GEOL 1070: Global Change

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Office hours: MWF 11-12, or by appointment.

MWF 1 PM GEOL 121

Text: Environmental Science, Botkin and Keller

This course will focus on the structure and functioning of the Earth's surface, and in particular, how humans interact with those systems. We will build on what you have learned in GEOL 1060.

There will be 2 exams during the semester, plus the final exam. There will also be 4 quizzes during the semester. You may drop one of the quizzes. Exams, including the final exam, are non-cumulative. Exams *will* cover quiz materials. If you know that you will miss an exam or a quiz and wish to make it up, you must see the Professor prior to the exam or quiz.

Grading:

Each quiz:	10%	(total of 30%)
Each exam:	20%	(total of 40%)
Final exam:	30%	

Quiz and Exam schedule:

Quiz 1:	Monday, Feb 5
Exam 1:	Wednesday, Feb 21
Quiz 2:	Monday, March 4
Exam 2:	Wednesday, March 20
Quiz 3:	Monday, April 8
Quiz 4:	Monday, April 22

Final exam: Thursday, May 9, 7:30 am to 10:30 am, GEOL 121

Course Outline

- I. Introduction to Environmental Sciences
- II. The Earth as a System
 - A. Concepts of fluxes, cycles and feedbacks
 - B. Non-linear systems
 - C. Equilibrium and steady state
- III. Biogeochemical cycles
 - A. Carbon
 - B. Nitrogen
 - C. Phosphorous
 - D. Sulfur
- IV. Human population
- V. Impacts of agriculture on the environment
- VI. Energy
 - A. Basics and definitions
 - B. Fossil fuels
 - C. Non-fossil fuels
- VII. Water and the hydrologic cycle
- VIII. Environmental policy
 - A. Waste and the garbage issue
 - B. Mineral resources
- IX. Humans as the Major Agent of Global Change

Readings

- Chapters 1 and 2
- Chapter 3
- Chapter 4
- Chapter 5
- Chapters 10 and 11
- Chapters 15, 16, 17, 18
- Chapter 19 and 20
- Chapters 27, 28
- Chapters 29 and 30

Copies of overheads shown in class are available on the World Wide Web at:

<http://www.Colorado.EDU/GeolSci/courses/GEOL1070/>