

GLY 1033 - 1

*SUMMARY  
UFL Earth as a system*

## GLY 1033 -- "The Earth as a System"

Spring 1994

**Description:** An overview of the Earth Sciences from a systems perspective. Students will learn to view the Earth as a complex system of interacting components including the geosphere, biosphere, hydrosphere, atmosphere, and anthrosphere. Course content will emphasize the mass and energy transfers between subsystems, including discussion of the social, economic, and ecological implications of global climate change. Relevant issues include global warming, stratospheric ozone depletion, deforestation, desertification, acid rain, biodiversity, human population growth, and food-water-energy resources. This course will meet general education requirement in the physical sciences in the College of Liberal Arts & Sciences.

**Credit hours:** 3 (2 hrs. lecture and 1-2 hr. discussion)

**Meeting time:** Lecture: T, R Period 5, FAB 103, 11:45-12:35

Laboratory: Periods 2-3, Weil 412, 8:30-10:00 AM

Mon. (1699), Tues. (1700), Wed. (1701), Fri. (1702)

**Enrollment:** Class will be limited to 55 students. Discussion is limited to 14 students.

**Discussion/Laboratory:** Laboratory will consist of videos and computer-assisted exercises using Geoscope (Interactive Satellite Imagery and Global Change Encyclopedia). No former computer knowledge is assumed or required. Students will participate in group discussions of socially relevant, global change issues.

**Instructor:** Dr. David A. Hodell, Dept. of Geology, B121 Turlington Hall, 392-6137

**Office Hours:** T, Th 4:00 - 5:00 PM

**Teaching Assistants:** Richard Balsler and John Catches

**Textbooks:** 1.) Introduction to Physical Geography, R.N. Wallen, Wm. C. Brown Publishers and 2.) Managing Planet Earth (Scientific American, Freeman)

**Grading:** Students will be evaluated by 3 hourly examinations (15% each), a comprehensive final examination (25%), a grade in discussion/laboratory (20%), and a term paper (10%). Borederline grades will be determined based on attendance.

**Attendance:** It is strongly recommended that you attend class regularly because most exam material is based on lecture notes. Readings do not always cover the same material as that presented in lecture and copying notes is "second-hand" information. If history is a guide, you must attend class to do well in the course. Attendance will be checked each day by randomly selecting five names from class role at the beginning of class.

**Reading assignments** will be given at the start of each class period for next meeting.

**Tentative Syllabus (subject to change)****January**

- T 4 Introduction to Earth System Science
- Th 6 Components of the Earth System (cont.)
- T 11 Components of the Earth System (cont.)
- Th 13 Film/Guest Lecturer (Hodell in Washington)
- T 18 Earth's place in the solar system - Comparison with nearest neighbors
- Th 20 Structure and Composition of the Atmosphere
- T 25 Earth's Heat Budget
- Th 27 Changes in the Earth's Atmosphere

**February**

- T 1 Global Warming and the Greenhouse Effect
- Th 3 **1st Hourly Examination**
- T 8 The Carbon Cycle, Photosynthesis/Respiration
- Th 10 Stratospheric Ozone Depletion
- T 15 The Acid Rain Problem
- Th 17 Atmospheric Circulation
- T 22 Atmospheric Circulation (continued)
- Th 24 Climate Classification

**March**

- T 1 How has climate changed in the past?
- Th 3 Paleoclimatology (cont.)
- 7-11 **Spring Break**
- T 15 **2nd Hourly Examination**
- Th 17 Soils and Vegetation
- T 22 The Biosphere
- Th 24 Deforestation
- T 29 The Hydrologic Cycle
- Th 31 Groundwater Contamination

**April**

- T 5 The Geosphere and Rock Cycle
- Th 7 Plate Tectonics
- T 12 Plate Tectonics (cont.)
- Th 14 **3rd Hourly Examination**
- T 19 The Integrated Earth System
- Th 21 **Review Session for Final Examination**

**Final Examination: Saturday, April 23 7:30-9:30 AM FAB 103**