

PHYS-2028-001: Great Ideas in Science II

Syllabus — Spring 2009

Course ID: PHYS-2028-001
Lecture Times: T R 12:45 p.m. – 2:05 p.m.
Lecture Location: Yoakley Hall, Room 109
Lecturers: Dr. Donald Luttermoser, Dept. of Physics & Astronomy
 Dr. David Harker, Dept. of Philosophy
Office Hours: by appointment
Textbook: *No Official Textbook is Required*
 (Reading assignments will announced in class)

Course Theme: GLOBAL CHANGES (Part 2)

Course Outline

Days	Topics	Lecturer
January 15	Introduction	Luttermoser
January 20, 22 January 27, 29 February 3, 5 February 10, 12	<u>The Changing Earth</u> Solar System Formation & Evolution The Earth-Moon System The Changing Earth's Atmosphere Student Projects	Luttermoser Luttermoser Luttermoser —
February 17, 19 February 24, 26 March 3, 5 March 10, 12 March 17, 19 March 24, 26 March 31, 2	<u>Biological Evolution</u> History of Life Adaptation Natural Selection Spring Break, No Class Concepts of the Gene Immunology & Antibiotic Resistance Genetically Modified Organisms (GMO)	Pyles Pyles Pyles — Harker Levy (?) Levy (?)
April 7, 9 April 14, 16 April 21, 23 April 28, 30	<u>Human Impact Forcing Change</u> Evolution of Altruism Global Warming Preparation for Public Presentation Pollution and Habitat Destruction	Harker Luttermoser Students to be announced

For other university information, please consult the ETSU supplemental syllabus attachment at:

<http://www.etsu.edu/reg/syllabus.htm>

The web page for this course can be found at:

<http://www.etsu.edu/physics/lutter/courses/phys2028/index.htm>

Overview

Great Ideas in Science II (GIS) is the second semester of a one-year honors course. GIS endeavors to introduce the student to the interdisciplinary side of science. Every year the “theme” of the course changes and for this 2008/2009 academic year, the theme of this course will be about *global changes*. This topic is very broad since it can encompass a variety of different sciences, hence this is a good theme to show interdisciplinary science.

During the Fall 2008 semester, the class focused on science’s role in explaining change that is seen in nature through a study of the scientific method and how science defines change and the public’s perception of change. This semester also introduced the student to concepts in physics and mathematics which help demonstrate various types of change in nature. In this Spring 2009 semester, we will focus changes involving our planet and the lifeforms that reside on it.

Student Projects

Besides the opening day Introduction, you will note there are three main areas of learning on the Course Schedule indicated by the “boxed” topics, (1) **The Changing Earth**, (2) **Biological Evolution**, and (3) the **Human Impact Forcing Change**. Each main area will have Lecturers that are knowledgeable of the material in that module. Each “module” will have Student Projects associated with it and possible additional assignments from which the course grade will be derived. These projects will be outlined near the beginning of each module and can include class debates, oral and/or written reports, or whatever other *cool* things we can think of to do. For the last project, the class as a whole will prepare and present a lecture to the general public covering **global warming**.

Note that there will be no exams given in this class. I also do not believe in “extra credit.” Extra credit work is the same as “credit” work in this class. As honors students you will be expected to perform at levels above the standard undergraduate student.

The Course Web Page

As the semester progresses, I will be adding links for the lectures you will be attending on the Course Web Page listed on the first page of this syllabus. I will also post descriptions of the individual Student Projects. Other useful links will also be posted on this Web Page as well.

Extracurricular Activities

From time to time, we may have to meet at times outside of class to watch an interesting video or movie, or perhaps go on a field trip. As the semester progresses, such activities will be announced a few weeks ahead of time. The final public presentation will also be given outside of class.

Grading

Each module will have its own set of assignments for the students to carry out. Some of the modules may only be based upon the Student Project. Assignments for each module will have the following weighting: 30% for Module 1, 30% for Module 2, and 40% for Module 3. The Final Course Grades is based upon the Final Course Score, which is based upon the previously mentioned weighting, with the following scale:

B+ = 88–89.9%	A = 92% or better	A– = 90–91.9%
C+ = 78–79.9%	B = 82–87.9%	B– = 80–81.9%
D+ = 68–69.9%	C = 72–77.9%	C– = 70–71.9%
	D = 60–67.9%	
	F = Less than 60%	

Note that a failing grade also will be given if the student has engaged in any form of academic dishonesty. **IMPORTANT NOTE: Turn your cell phones off before coming into class!**