

**GLY 2038 (1D89): Sustainability and the Changing Earth**  
**Spring 2014 Location: WM 100 MWF 9:35-10:25 am**

Instructor: Dr Andrew Zimmerman

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Office Hours: Mon. 3-4 pm or by appointment

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Office Hours: Tues. 3 - 4 pm (or by appt.)

### **COURSE DESCRIPTION**

This course introduces planet Earth as a dynamic and complex global system which influences human activities and is changed by human activities. Course materials will demonstrate physical and chemical linkages between the geosphere, hydrosphere, biosphere and atmosphere, which directly impact the sustainability of human lifestyles at a variety of timescales.

### **SUGGESTED TEXTBOOKS**

1) An Environmental Geology book such as:

Hudson, 'Living with Earth; An Introduction to Environmental Geology', AGI, Pearson/Prentice Hall

- [www.mypearsonstore.com](http://www.mypearsonstore.com) \$112 bound book, \$72 Books à la Carte are unbound, three-hole-punch versions of the textbook \$45 digital book via CourseSmart: read on or offline via tablet device

2) An Environmental Science Book such as:

Cunningham, 'Environmental Science: A Global Concern', McGraw Hill

### **COURSE WEBSITE**

On Sakai through the UF e-learning website; go to <http://lss.at.ufl.edu/> and click on the e-Learning button.

The course site will have relevant announcements posted, downloadable lecture notes/outlines, etc. You are responsible for checking this site for announcements, readings, and to see that your grades are being correctly recorded. Do not send me e-mail through this site; use [azimmer@ufl.edu](mailto:azimmer@ufl.edu) instead.

### **GRADING**

75% Three exams (mid-term and final), 25% each (mostly multiple choice, some short answer)

15% about 5 readings and 5 unannounced exercises/quizzes

10% Sustainability analysis project (presentation and paper, both done in groups of 2 students)

### **GRADING SCALE**

A =  $\geq 93\%$ , A- = 90-92.99, B+ = 87-89.99, B = 83-86.99, B- = 80-82.99, C+ = 77-79.99, C = 73-76.99, C- = 70-72.99, D+ = 67-69.99, D = 63-66.99, D- = 60-62.99, E < 60

Your participation and eagerness to learn will be used to aid final grade determination in borderline situations. No rounding up or down. \*Note: A grade of C- grade or below does not qualify grade for major, minor, Gen Ed, or College Basic distribution credit.

For further information on UF's Grading Policy, consult the following:

<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

<http://www.isis.ufl.edu/minusgrades.html>

### **EXAMS**

Everything associated with the class, including lecture material, textbook, readings and exercises, is fair game on exams. However, the focus will be on material presented in lecture. Exam material is cumulative but focuses on most recent material. Make-ups for exams will only be given by pre-arrangement or under

extraordinary circumstances. Exam grades will be curved to a median of 85% using a linear method described here: <http://www.ats.amherst.edu/software/excel/excel-grading/excel-grades/#CurvingGrades>.

### **READINGS/EXERCISES**

Discussion reading will be assigned periodically and must be read prior to class. These will be made available in pdf format on the class website. For each reading, students will prepare to hand in after the class discussion periods, on 1 side of a standard notebook paper, a summary including 1) at least two things you learned or found interesting, 2) two good questions brought to mind by the reading (question for me or the group as a whole). These can be turned in up to 1 week late to receive half credit.

### **SUSTAINABILITY ANALYSIS STUDENT PRESENTATION/PAPER/PROJECTS**

Students in groups of 2 will conduct a quantitative analysis of the sustainability of a particular environmental issue or resource. The 10 minute presentation to the class, and later, the write up (no more than 2 pages) to be turned in, will consist of a short background to the issue, the equation used, the source and uncertainties of the data used, discussion of the result and implications.

Points will be awarded based upon

- presentation style (speaking and visuals or writing style),
- clarity of information provided/organization,
- demonstration of scientific and quantitative thinking or analysis
- originality and creativity

### **ATTENDANCE AND ABSENCE POLICY**

Attendance and participation will be gauged by the level of on-time completion of reading assignments and unannounced in-class quizzes or exercises during the semester.

Students are expected to complete all requirements (quizzes, exams, presentation) on the specified dates and will not be granted an alternate date unless they have an acceptable reason for their absence (e.g., absences due to medical emergency, observance of religious holidays, military obligation) or pre-arranged consent of the instructor.

### **CLASSROOM POLICY**

Use of mobile phones and computers for purposes other than viewing readings or notes is not allowed.

### **ACADEMIC POLICY**

Students are required to be honest in their coursework, may not use notes during quizzes and/or exams, and must properly cite all sources that they have consulted for their papers. Any act of academic dishonesty will be reported to the Dean of Students, and may result in failure of the assignment in question and/or the course. For University of Florida's honor code, see <http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php>.

### **DISABILITY RESOURCE CENTER**

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

For information about resources that are available to students with disabilities, contact the Disability Resources Center: <http://www.dso.ufl.edu/drc/>

### **ADDITIONAL RESOURCES**

Students facing difficulties completing the course or who are in need of counseling or urgent help may call the on-campus counseling center (352-392-1575) or the student mental health center (352-392-1171).

**GLY 2038: Sustainability and the Changing Earth: Spring 2014**  
**Prof. Andrew Zimmerman - Tentative Schedule**

Week	Date	Topic	Note
<b>Introduction – The Changing Universe</b>			
1	Jan 6	Course Intro/Background Concepts	
	Jan 8	Background Concepts	
	Jan 9	Origins of Everything	
2	Jan 13	Origins of Everything	
	Jan 15	Discuss Reading on ‘ <i>Anthropocene</i> ’	Reading TBP
	Jan 17	Plate tectonics	
<b>The Changing Geosphere</b>			
3	Jan 20	NO CLASS - MLK	
	Jan 22	Plate tectonics	
	Jan 23	Geological Hazards	
4	Jan 27	Geological Hazards	
	Jan 29	Geological Hazards	
	Jan 31	Discuss Reading on ‘Geo Hazards’	Reading TBP
<b>The Changing Hydrosphere</b>			
5	Feb 3	Water Cycle / Water Properties	
	Feb 5	Water Cycle / Water Properties	
	Feb 7	Freshwater	
6	Feb 10	Freshwater	
	Feb 12	Freshwater	
	Feb 14	Discuss Reading on ‘Water Resources’	Reading TBP
7	Feb 17	Coasts	
	Feb 19	<b>EXAM #1</b>	
	Feb 21	The Atmosphere	
<b>The Changing Atmosphere/Climate</b>			
8	Feb 23	Past Climates	
	Feb 25	Climate Change - Evidence	
	Feb 27	Climate Change - Evidence	
<b>SPRING BREAK</b>			
9	Mar 10	Climate Change - Effects	
	Mar 12	Climate Change - Solutions	
	Mar 14	<b>EXAM #2 (this date may change)</b>	

<b>Biological and Physical Resources</b>			
10	Mar 17	The Biosphere	
	Mar 19	Biological Resources	
	Mar 21	Marine Resources	
11	Mar 24	Soil, Agriculture and Nutrients	<b>**Team plan due**</b>
	Mar 26	Discuss Reading on 'Soil'	Reading TBP
	Mar 28	Mineral Resources	
12	Mar 31	Mineral Resources	
	Apl 2	Energy Resources	
	Apl 4	Energy Resources	
13	Apl 7	Discuss Reading on 'Energy'	Reading TBP
	Apl 9	Human Impacts and Waste	
	Apl 11	Human Impacts and Waste	
<b>Student Presentations of Sustainability Analyses</b>			
14	Apl 14	Student Presentations	
	Apl 16	Student Presentations	
	Apl 18	Student Presentations	
15	Apl 21	Student Presentations	
	Apl 23	Student Presentations	
	Apl 24& 25	<b><i>Additional meetings as needed for presentations</i></b>	<b><i>Sustainability Analysis write up due</i></b>
Finals Week	Apl 28	<b><i>Final Exam?</i></b>	
<b>Final Exam TBD</b> (Scheduled for 12:30 p.m. - 2:30 p.m, Thursday May 1)			