

## **GEO 302E – Earth, Wind & Fire (Spring 2012)**

Location: GEO 2.324

Time: MWF 11:00-12:00, plus scheduled lab section

### **Professors:**

Gary Kocurek

Office: EPS 3.166 (Shoch Building)

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Joel Johnson

Office: EPS 3.136 (Shoch Building)

Office hours: Monday and Wednesday 3:00-4:00, or by appointment.

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Phone: 512-232-5288

### **Optional Textbook**

*Living with Earth: An Introduction to Environmental Geology.* by Travis Hudson, Prentice Hall, 1st edition (2010 or 2011). ISBN:9780131424470

### **BlackBoard Use**

PowerPoint lectures will be available on BlackBoard, usually a short time before class begins. It is expected that you have a computer with internet access or that you have access to these facilities. You will be responsible for printing your own lab handouts and other documents as needed.

### **Overview:**

This course is an introduction to key topics in Earth sciences for non-geoscience majors. We think of it as geosciences literacy—what any well-educated person should understand about the functioning of Earth and human environments.

### **Course Credit:**

Four Lecture Exams (20% each, 80% total)

Lab (20% total)

Two Lab Exams (5% each, 10% of total grade)

Weekly Lab Assignments (5% of total grade)

Mandatory Attendance at Lab (5% of total grade)

Four lecture exams occur during the class period. Do not expect grades to be curved. Grades will be assigned as: A (100-89.5), B (89.5-79.5), C (79.5-69.5), D (69.5-59.5), F (< 59.5). +/- Grades will not be used.

There are no make-up exams (lecture or lab). Exceptions will only be made if you have received official UT permission to make up class work for certain dates. You will be expected to make up the exam as soon as possible following the exam date. Student Emergency Services is the place to get official excused absences for issues such as medical or family emergencies:

Student Emergency Services  
(512) 471-5017  
Student Services Building Room 4.104  
<http://deanofstudents.utexas.edu/emergency/>

*YOU MUST BRING PENCILS AND ERASERS AND YOUR UT ID CARDS TO ALL EXAMS. ALL OTHER NECESSARY MATERIALS WILL BE PROVIDED.*

**Lecture Exams:**

- Exam 1: February 13 (Monday)
- Exam 2: March 7 (Wednesday)
- Exam 3: April 9 (Monday)
- Exam 4: May 4 (Friday), last day of classes

**Lab Exams:**

- Exam 1: Week of 2/27-3/2
- Exam 2: Week of 4/23-4/27

While the exams are not cumulative, you are expected to accumulate knowledge from the course as a whole, and it is likely that several questions on later tests will be on topics that were covered prior to the previous exam.

**The University Honor Code:** “The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.” Students are expected to read and to strictly adhere to the University’s written policies on academic dishonesty. Cheating or plagiarism can result in a zero for the semester.

**A note to students with disabilities:** students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259.

**Earth, Wind & Fire (Spring 2012)**

Date	Lecture Topic	Reading	Lab Topic
1/18/12	Introduction		No lab this week
1/20/12	The Earth System	Chapters 1,2	
1/23/12	History of Plate Tectonics	Chapter 3	Plate Tectonics
1/25/12	How Plate Tectonics Work #1		
1/27/12	How Plate Tectonics Work #2		
1/30/12	Earthquakes #1	Chapter 5	Earthquakes & Volcanoes
2/1/12	Earthquakes #2, Volcanoes #1	Chapter 6	
2/3/12	Volcanoes #2		

2/6/12	The Record in Rocks	Chapter 4	Geologic Time
2/8/12	Geologic Time-Relative Dating		
2/10/12	Absolute Dating		
<b>2/13/12</b>	<b>Exam 1</b>		Rocks and Minerals
2/15/12	Earth Surface Processes-Weathering & Soil	Chapter 8,11	
2/17/12	Mass Wasting & Subsidence		
2/20/12	Hydrosphere-Hydrologic Cycle	Chapter 10	Ground Water & Aquifers
2/22/12	Groundwater		
2/24/12	Water Resources & Pollution		
2/27/12	Rivers #1	Chapter 7	<b>Lab Exam 1</b>
2/29/12	Rivers & Flooding		
3/2/12	How the Oceans Work		
3/5/12	Coastal Erosion and Storms	Chapter 9	Geologic Maps
<b>3/7/12</b>	<b>Exam 2</b>		
3/9/12	Atmosphere-Structure & Composition	Chapter 14	
3/12/12	Spring Break Week		Waves & Sand?
3/14/12			
3/16/12			
3/19/12	Controls on Climate #1	Chapter 14	Global Climate Change
3/21/12	Controls on Climate #2		
3/23/12	Climate Change Through Time		
3/26/12	Air Pollution & Climate Change		Waller Creek
3/28/12	Biosphere-History of Evolution		
3/30/12	How Evolution Works		
4/2/12	Life on Earth Through Time		Texas Memorial Museum
4/4/12	Extinction Events		
4/6/12	Hominoid Evolution		
<b>4/9/12</b>	<b>Exam 3</b>		Resources and Rocks
4/11/12	Minerals and Mining #1	Chapter 4, 12	
4/13/12	Minerals and Mining #2		
4/16/12	Resources-Fossil Fuels #1	Chapter 13	Geologic Tour of Campus
4/18/12	Coal, Natural Gas, Fracking		
4/20/12	Peak Oil		
4/23/12	Alternative Energy #1		<b>Lab Exam 2</b>
4/25/12	Alternative Energy #2		
4/27/12	Human Population	Chapter 15	
4/30/12	Human Impact on Earth		Optional review, test return
5/2/12	Summary of class		
<b>5/4/12</b>	<b>Exam 4</b>		

## Lab Syllabus

### Teaching Assistants:

TA: Katie Browne E-mail: [katie.pyon@gmail.com](mailto:katie.pyon@gmail.com)

Lab Sections: Monday 9:30-11:00, Monday 12:30-2:00, Tuesday 2:00-3:30,  
Thursday 2:00-3:30.

Location: JGB 2.308

TA: Marina Frederik E-mail: [marina.frederik@utexas.edu](mailto:marina.frederik@utexas.edu)

Lab Sections: Wednesday 12:30-2 & 3:30-5, Thursday 12:30-2, Friday 9:30-11:00.

Location: JGB 2.308

TA: Spencer Seman E-mail: [spencer.seman@utexas.edu](mailto:spencer.seman@utexas.edu)

Lab Sections Monday 8:00-9:30 & 2:00-3:30 Tuesday 8:00-9:30; Thursday 2:00-3:30

Location: JGB 2.308

TA: Yu Xia E-mail: [yu.xia@mail.utexas.edu](mailto:yu.xia@mail.utexas.edu)

Lab Sections: Monday 2-3:30, 3:30-5:00; Tuesday 9:30-11, Thursday 9:30-11:00

Location: JGB 2.308

As described above, the Lab grade will be 20% of the total grade. Attendance is mandatory and 5% of your total grade. Weekly assignments are collectively 5% of the total class grade, and two lab tests are each 5% of the total class grade.

**Attendance:** You must attend the lab for which you are registered. You will not be allowed to attend another lab section without prior approval and a good reason.

If you must miss a lab, please contact your TA ahead of time to arrange a reasonable solution to the problem. In general, you will arrange to attend a different lab section run by YOUR TA. If this is not possible, you will arrange (with prior approval) to attend a different TA's section. This must be done in the given week of that lab. If this is not possible, you can make up ONE lab with the extra-credit assignment below.

Lab Assignments will be posted on Blackboard, but usually not until Friday afternoon of the week in advance of each laboratory. It is your responsibility to print these assignments and bring them with you to work on during your assigned laboratory.

**Late Labs:** Assignments will be due at the start of your lab the following week. Late lab assignments will not be accepted.

**Grading discrepancies:** if you think an assignment or test question was graded incorrectly, let me or the TA know as soon as possible after it is returned. It is your

responsibility to promptly check the grading. No changes will be made to the grading of an assignment or exam question after it has been handed back for one week.

**Extra Credit/Lab Makeup opportunity:** Find an article in SCIENTIFIC AMERICAN (a magazine) that relates to geological topics we have discussed in class. Read the article and summarize it in a paragraph, in your own writing. Then relate the article to topics we have discussed in this class, again in a paragraph. The total length of your writing should be approximately 1 page (10-12 point font, 1.5 line spacing). We want to see that you read the article, understood what it was saying, and understand how it relates to this course.

Turn in your summary, along with a PRINTED COPY of the article. We will definitely check to see if any writing was plagiarized. These must be turned in no later than the date of your second lab exam, to be handed in before the test begins. This extra credit may be used to replace one lab exercise (or counts as an additional lab assignment for extra credit). **Only one extra credit/makeup per student.**

Scientific American is available online to students through the UT libraries. The article you choose can be from any year of the magazine; searching the Scientific American website is an effective way to find articles of interest. From campus it may be directly accessible at: <http://www.nature.com/scientificamerican/index.html> .From off-campus, it should be available from links through the UT libraries:

<http://findit.lib.utexas.edu/utaustin/az>

**Plagiarism:** Copying sentences or recognizable parts of sentences and turning them in as your own writing constitutes plagiarism. Using quotes (“”) to identify this writing does not constitute plagiarism, but extensively using direct quotes it also does not meet the expectations of the assignment (because it is not in your own words). More information on UT plagiarism policies is given here:

[http://deanofstudents.utexas.edu/sjs/scholdis\\_plagiarism.php](http://deanofstudents.utexas.edu/sjs/scholdis_plagiarism.php)