

GEO 302E – Earth, Wind & Fire (Spring 2011)

Location: GEO 2.324

Time: MWF 11:00-12:00

Professor: Joel Johnson

Office: EPS 3.136 (Shoch building)

Office hours: Monday and Wednesday 1:00-2:00, or by appointment. Also, feel free to come by my office other times and see if I am available.

E-mail: joelj@jsg.utexas.edu

Phone: 512-232-5288

Optional Textbook

Exploring Geology, Custom Edition for University of Texas. by Pipkin et al., 4th edition (2006) or 5th edition (2008). ISBN:9780495205937

BlackBoard Use

PowerPoint lectures and lab handouts will be available on BlackBoard. The class will be listed as a “Virtual Class” (so that all the sections have access to the same material). 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-science majors. I think of it as geosciences literacy—what any well-educated person should understand about the functioning of the Earth and human environments.

Course Credit:

Best two of three Lecture Exams (67%)

Lab (33%)

Three lecture exams occur during the class period. The lowest exam score is dropped for grade calculation. There are no make-up exams. There is no curving of grades and your grade is the numerical average of 2 lecture exams and the total lab score: A (100-90), B (89-80), C (79-70), D (69-60), F (< 60).

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

Exams:

Exam 1: February 18

Exam 2: March 23

Exam 3: May 6

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 will 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.

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| Date | Lecture Topic | Reading | Lab Topic |
|---------|---|------------|-------------------------|
| 1/19/11 | Introduction | | No lab this week |
| 1/21/11 | The Earth System | | |
| 1/24/11 | Geosphere-History of Plate Tectonics | Chapter 3 | Plate Tectonics |
| 1/26/11 | How Plate Tectonics Work #1 | | |
| 1/28/11 | How Plate Tectonics Work #2 | | |
| 1/31/11 | Past & Future Earth Views | | Earthquakes & Volcanoes |
| 2/2/11 | Plate Tectonics & Landscape | | |
| 2/4/11 | Earthquakes | Chapter 4 | |
| 2/7/11 | Volcanoes | Chapter 5 | Rocks & Minerals |
| | Earth Surface Processes-Weathering & Soil | Chapter 6 | |
| 2/9/11 | | Chapter 6 | |
| 2/11/11 | Mass Wasting & Subsidence | Chapter 7 | |
| 2/14/11 | Terrestrial Environments on Earth | Chapter 12 | Geologic Maps 1 |
| 2/16/11 | Review | | |
| 2/18/11 | Exam 1 | | |
| 2/21/11 | The Record in Rocks | Chapter 2 | Geologic Time |
| 2/23/11 | Geologic Time-Relative Dating | Chapter 17 | |
| 2/25/11 | Absolute Dating | | |
| 2/28/11 | Hydrosphere-Hydrologic Cycle | | Ground Water & Aquifers |
| 3/2/11 | How the Oceans Work | Chapter 10 | |
| 3/4/11 | Coastal Flooding | | |
| 3/7/11 | Rivers & Flooding | Chapter 9 | Lab Exam 1 |
| 3/9/11 | Groundwater | Chapter 8 | |
| 3/11/11 | Water Resources & Pollution | | |
| 3/14/11 | Spring Break Week | | |
| 3/16/11 | | | |
| 3/18/11 | | | |
| 3/21/11 | Review | | Geologic Maps 2 |

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|---------|------------------------------------|--------------------------|--------------------------|
| 3/23/11 | Exam 2 | | |
| 3/25/11 | Atmosphere-Structure & Composition | | |
| 3/28/11 | Controls on Climate #1 | Chapter 11 | Global Climate Change |
| 3/30/11 | Controls on Climate #2 | | |
| 4/1/11 | Climate Change Through Time | | |
| 4/4/11 | Air Pollution & Climate Change | | Texas Memorial Museum |
| 4/6/11 | Biosphere-History of Evolution | Chapter 18 | |
| 4/8/11 | How Evolution Works | | |
| 4/11/11 | Earliest Times & Life on Earth | Chapter 19 | Geologic Tour of Campus |
| 4/13/11 | Life on Earth Through Time | | |
| 4/15/11 | Extinction Events | | |
| 4/18/11 | Hominoid Evolution | | Waller Creek |
| 4/20/11 | Resources-Fossil Fuels | Chapter 14 | |
| 4/22/11 | Minerals | Chapter 13 | |
| 4/25/11 | Alternative Energy & Resources | | Touring the Solar System |
| 4/27/11 | Human Population | | |
| 4/29/11 | Human Impact on Earth | Chapters 1 & 15 | |
| 5/2/11 | Other Places in Our Solar System | Chapter 19 (at text end) | Lab Exam 2 |
| 5/4/11 | Review | | |
| 5/6/11 | Exam 3 | | |