Syllabus: Earth Science 1000

Class Meetings:
Web Site: http://campus.fsu.edu
Instructor:
E-mail:
Phone:
Office:
Office Hrs:

Course Description: Earth Science incorporates a broad and voluminous body of subject matter. The Sciences of Astronomy, Geology, Oceanography, and Meteorology are all part of Earth Science. Therefore, the course includes the following components: the scientific method, minerals and the importance of minerals in geology, the origin and classification of rocks and the rock cycle, the processes acting at the earth's surface that create and shape landforms, the causes and effects of earthquakes and the earth's interior structure, intrusive and extrusive igneous processes and features, the theory of plate tectonics, the significance of geologic time and relative and chronological dating methods, global concepts (locating positions on the earth, the earth's orbit around the sun, and seasonal variations), the composition and circulation of earth's oceans and the geology of the seafloor, the composition, structure and circulation of the earth's atmosphere, the various weather elements (temperature, atmospheric pressure, relative humidity, wind, clouds and precipitation), and the components of our solar system and its origin.

Course Goals: Upon completing this course, the student will be able to demonstrate the ability to think critically and cogently about causal relationships with scientific reasoning; assess previous experimentation and published scientific results; critically examine and evaluate scientific observation, hypothesis or model construction; articulate a variety of issues created by the complex interactions among science, technology, and society; use scientific perspectives to evaluate contemporary problems facing society.

Lectures: Lectures are the fundamental way that I can help you to learn about how the Earth works. It's my job to separate the important stuff from the less important, and to try to provide you with a mental framework of some sort that will help you think about how Earth and geological processes work. Textbook chapters and other assigned readings are required previews and preparation for what we'll talk about in class.

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<tr>
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<td>Scientific Method</td>
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<td>1/15</td>
<td>Cosmology</td>
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<td>1/15</td>
<td>Rocks and Minerals</td>
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<td>1/17</td>
<td>Rocks and Minerals</td>
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<td>Surface Processes</td>
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<td>1/31</td>
<td>Surface Processes</td>
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<td>Plate Tectonics</td>
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<td>Interior and Earthquakes 6-7</td>
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<td>Midterm</td>
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<td>Weather and Climate</td>
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<td>Solar System</td>
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<td>Infinity and Beyond</td>
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<td>5/2</td>
<td>FINAL (7:30-9:30 am)</td>
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Remember, while this is not a class about memorizing things (it's about learning how natural processes operate in the world around you), however, in order to make sense of the interesting concepts you will need to learn considerable vocabulary (that's just the way it is with most new things you want to learn about).

I-Clicker questions: During class meetings I will pose questions for you to answer, probably 2 or
3 questions per class, using the I-Clicker transmitter. You will be given three points for each correct answer and two points for each incorrect answer. These are not “extra” credit — these will be converted into the equivalent of a test grade at the end of the semester, according to the following scale:

- 60% or more of total I-Clicker points: 100 points
- 50-59.9% of total I-Clicker points: 75 points
- 40-49.9% of total I-Clicker points: 50 points
- less than 40% of total I-Clicker points: 0 points

Note that:
1. You can get every question wrong, and still earn 100 points — if you come every day, remember your clicker, and try to answer each question.
2. You can miss several days, and it won’t matter — unless you’ve missed a lot of other days.
3. You can easily earn a 0 on this — by not coming to class, or forgetting your clicker.

Intentionally using another student’s transmitter to gain class credit is a violation of the FSU Academic Honor Code and is strictly forbidden. All students involved in such behavior will automatically lose all I-Clicker credit for the semester and will be subject to the procedures as outlined in the Honor Code.

Exams: There will be two exams, a midterm and a final, worth 100 points each. The final exam is not cumulative. Tests will be largely multiple choice, and will cover material from the lectures, the textbook and other assigned readings, and the homework. You must take the exams under normal exam conditions (put away all other material, take hats off, and you are not allowed to discuss question with anyone else). Use of a cell phone or other communications device will result in a zero score. If you must miss a test, you need to email and notify me BEFORE THE EXAM. Makeup exams, if allowed, and are essay type. Failure to notify me promptly will result in a zero for that test.

Extra Credit: None, no-way, zippo, don’t ask.

Grading: The final course grade will be determined on a scale of 300 points, based on the total scores of the two exams, plus up to 100 points from I-Clicker questions. See grading scale below.

University Attendance Policy: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy: The Florida State University Academic Honor Policy outlines the University’s expectations for the integrity of students’ academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at [http://fda.fsu.edu/Academics/Academic-Honor-Policy](http://fda.fsu.edu/Academics/Academic-Honor-Policy))

Intentionally using another student’s I-clicker transmitter to gain class credit is a violation of the FSU Academic Honor Code and is strictly forbidden. All students involved in such behavior will automatically lose all I-clicker credit for the semester and will be subject to the procedures as outlined in the Honor Code. EOAS will regard similar organization, phrasing, or wording in quizzes or tests as examples of excessive collaboration. Such evidence of cheating will result in immediate failure.

Americans With Disabilities Act: Students with disabilities needing academic accommodation
should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the: Student Disability Resource Center 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD) sdrc@admin.fsu.edu http://www.disabilitycenter.fsu.edu/

Free Tutoring from FSU For tutoring and writing help in any course at Florida State University, visit the Academic Center for Excellence (ACE) Tutoring Services’ comprehensive list of tutoring options - see http://ace.fsu.edu/tutoring or contact tutor@fsu.edu for more information. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.

The Liberal Studies for the 21st Century Program at Florida State University builds an educational foundation that will enable FSU graduates to thrive both intellectually and materially and to support themselves, their families, and their communities through a broad and critical engagement with the world in which they live and work. Liberal Studies thus offers a transformative experience. This course has been approved as meeting the requirements for Scientific Method and Reasoning and thus is designed to help you become a critical appraiser of theories and the facts that support them.


note: if necessary, sufficient points will be added to your final average to raise class median to 75

Syllabus Change Policy: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.
Think critically and cogently about causal relationships with scientific reasoning
Assess previous experimentation and published scientific results
Critically examine and evaluate scientific observation, hypothesis or model construction

Why was Wegener’s theory not readily accepted by American and European scientists?
A. Wegener was a meteorologist not a geologist
B. Wegener’s data supporting his theory was incorrect
C. Wegener didn’t have any data
D. Wegener lacked a mechanism for moving continents
E. There was proof that Wegener was wrong

Why were southern hemisphere scientists more inclined to agree with Wegener?
A. Continents move faster in S. Hemisphere
B. More studies done in S. Hemisphere
C. More geologists in S. Hemisphere
D. Remnants of Gondwana in S. Hemisphere
E. Wegener’s theory only worked in S. Hemisphere

Which of the following types of data support Plate Tectonics but were not available to Wegener?
A Continental fit
B Magnetic stripes
C Ancient glaciers
D Fossil distributions
E All were available

What theory for the origin of the solar system is competitive with the Nebular Hypothesis?
A. Near-Miss Hypothesis
B. Big Bang
C. Black Hole Hypothesis
D. General relativity
E. Cosmic oscillation theory

Which observation below supports the Nebular Hypothesis over the above rival theory?
A. Plane of Ecliptic
B. Direction of Orbit
C. Existence of moons
D. Beta Pictoris
E. Dense inner planets

Articulate a variety of issues created by the complex interactions among science, technology, and society.
Use scientific perspectives to evaluate contemporary problems facing society.

List three ways to deal with coastal erosion and for each list a disadvantage of using the method.
1. __________________ ____________________________
2. __________________ ____________________________
List 3 sources of energy which might be replacements for petroleum. For each list one positive and one negative aspect to using this form of energy

1. ___________  
   plus=___________________________________________________  
   minus=_________________________________________________

2. ___________  
   plus=___________________________________________________  
   minus=_________________________________________________

3. ___________  
   plus=___________________________________________________  
   minus=_________________________________________________