

EAS 100
PLANET EARTH

Spring, 2007 - TTH 4:30 - 5:45PM – PHYS 114

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Office Hours: TTH 3:30 – 4:00PM (most days)

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Eas100 Home Page: <http://web.ics.purdue.edu/~braile/eas100/eas100home.htm>

Teaching Assistants: Patrick Brennan, Office Hours: M 9:00-10:00AM, Th 9:30-10:30AM;
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Secretary: Kathy Kincade (Room CIVL 2169-D, Phone: 494-5984)

EDUCATIONAL OBJECTIVES: The EAS 100 course is designed primarily for non-science majors and provides a brief introduction to Planet Earth including the following geoscience subjects: Earth science (geology), oceanography, atmospheric science (meteorology), and astronomy. The coursework, assignments, and examinations emphasize developing a basic understanding of geoscience processes and concepts rather than memorization of terms, definitions and facts. Specific objectives of the course in three areas – content, skills and attitudes – are:

1) Content objectives

- Develop an understanding of the basic characteristics, history, and processes of Planet Earth
- Enhance understanding of the interconnection between various Earth processes and topics
- Emphasize potential human effects on Earth processes and related environmental issues
- Consider the fundamental Earth science topics that are relevant to future teachers

2) Skill objectives

- Gain experience in problem solving associated with complex science issues
- Practice some analysis techniques that are useful in science, including graphing, map interpretation, visualizing three-dimensional features and understanding the concepts associated with scale – particularly for very large time periods or distances

3) Attitudinal objectives

- Enhance appreciation of modern scientific study
- Gain confidence in understanding and using scientific methods and information
- Recognize the relevance of Earth science and study of Planet Earth to our daily lives and our future
- Increase our appreciation of the Earth

TEXTBOOK: Foundations of Earth Science, 4th Edition, Lutgens and Tarbuck, 2005

REQUIREMENTS:

- 1) Lecture
- 2) Reading Assignments (listed below)
- 3) Exams: (Exams are about 50 minutes long and cover material for about 5-6 weeks of the semester. Exams are short answer and multiple choice format. You will be able to bring a 3" x 5" "Study Card", with study information written on it, to the exams.)
 - a. Midterm 6th week (~20% of grade; material through ~2/13)
 - b. Midterm 11th week (~20%; material from Exam I through ~3/27)
 - c. Final Finals week (~20%; material from Exam II through end of semester)
- 4) Term paper (~15%) (5-8 pages double-spaced typed, **excluding** references, tables and figures). Paragraph describing topic due **Tuesday, March 6**. Paper due **Tuesday, April 17**. (More information later).
- 5) Quizzes or in-class activities/assignments, 7-9 unannounced (10 minutes) (~10-15%)
[Quizzes may consist of traditional question and answer quizzes; in-class activities or "learning quizzes" with a written component; or brief response questions associated with a videotape.]
- 6) Homework (6-7 assignments) (~10-15%) (**Late homework is accepted but must be turned in by the last day of class. Be sure to check your grades on WebCT.**)

ATTENDANCE: Although no record of attendance in class is taken, your regular attendance is expected, and because the most important course material is discussed in lecture, your learning will be enhanced by regular attendance. Furthermore, there is good evidence that regular attendance will improve your grade in the course. Therefore, your attendance is strongly encouraged. To encourage attendance and keep up-to-date with course information, provide practice for exams, and stress important material, occasional quizzes (or in-class activities) will be given in lecture. **If you miss a quiz (or in-class activity), you will not be able to make it up.** However, two quiz grades will be deleted at the end of the semester and, except for people with poor attendance and thus a low quiz total, the quiz scores will only have a significant impact on your grade in borderline situations. If you have an extended absence, such as for a hospital stay or other serious problem, please see me to discuss.

Note that the EAS 100 class is scheduled for two 75-minute time periods per week (Tuesday and Thursday, 4:30 - 5:45PM). The advantages of this schedule are: 1) No Monday or Friday classes; 2) meet only twice each week; 3) an extended class time (75 minutes) for exams or other activities requiring more than 50 minutes. The disadvantages are: 1) The possibility of "losing concentration" during the last part of the class time; 2) the fact that if you miss a class, you miss a larger amount of material.

GRADING: Grades for the course will be assigned from the total of points from the exams, term paper and quiz/homework categories. Grading will be on an "adjustable curve", not on a straight scale (>90 = A, 80-89 = B, etc.), or a fixed curve (top 10% = A, next 20% = B, next 40% = C, etc.). In past years, most students have done reasonably well in this course and about 40-50% of the class receives an A or B grade. After each exam, I will provide a grade range and approximate letter grade equivalent table as a indication of how well you did on the exam. However, the actual exam grades are the point totals which are summed at the end of the semester. As you know, averages can lead to somewhat unexpected results - two low B grades and a low C may end up as a C for an average grade, or two high C grades and a high B grade may have a numerical total yielding a B grade. When grades are assigned at the end of the semester, I check individual totals in borderline cases to look for a high quiz/homework grade (good attendance and performing all assigned work) and for improvement in test grades (one poor test score at the beginning may be due to difficulty in adjusting to the style of the test and should be able to be overcome). Grade boundaries may then be adjusted slightly.

(Grades will be available on WebCT. You can link to WebCT from the EAS 100 web page: <http://web.ics.purdue.edu/~braile/eas100/eas100home.htm>. You can also link to the EAS 100 web page from Prof. Braile's home page: <http://web.ics.purdue.edu/~braile/>. If you think that you have a problem with your grades, please see me before the last day of class.)

SCHEDULE:**EAS 100, Spring, 2007**

Week	Day	Topic	Assigned Reading pages (TEXT)
1.	Jan. 9 - Tu Jan. 11 - Th	INTRODUCTION - Course Content, Scientific Method Metric, Why geoscience?	1-11 "
2.	Jan. 16 - Tu Jan. 18 - Th	Powers of Ten, Scale, Graphs and Maps, Models Forces and Energy	" 291-294
3.	Jan. 23 - Tu Jan. 25 - Th	Geologic time, Periodicity Uniformity vs. Catastrophism, Earth Processes	214-230 94-108, 214-217
4.	Jan. 30 - Tu Feb. 1 - Th	EARTH SCIENCES - Interior of the Earth Chemistry of the Earth	165-167 16-57
5.	Feb. 6 - Tu Feb. 8 - Th	Plate Tectonics "	122-147, 170-179 "
6.	Feb. 13 - Tu Feb. 15 - Th	Geological Hazards, Earthquakes ***EXAM I***	152-164
7.	Feb. 20 - Tu Feb. 22 - Th	Geological Hazards, Earthquakes Geological Hazards, Volcanoes	152-164 184-208
8.	Feb. 27 - Tu Mar. 1 - Th	Hawaiian Volcanoes OCEANOGRAPHY – Intro., Ocean Basin Morphology	" 236-250, 65-66
9.	Mar. 6 - Tu Mar. 8 - Th Mar. 12-16	Waters of the Ocean, Ocean Currents Waves and Tides, Shoreline Phenomena *** Spring Break ***	78-88, 255-277 " -
10.	Mar. 20 - Tu Mar. 22 - Th	Marine Biology Ocean Pollution, Oil Spills	- -
11.	Mar. 27 - Tu Mar. 29 - Th	" ***EXAM II***	-
12.	Apr. 3 - Tu Apr. 5 - Th	ATMOSPHERIC SCI. – Intro., Structure of Atmos. Circulation of the Atmosphere, Weather Forecasting	282-296 338-351, 356-364
13.	Apr. 10 - Tu Apr. 13 - Th	Weather Forecasting Climate	" 282-304
14.	Apr. 17 - Tu Apr. 19 - Th	Hurricanes, Tornadoes Greenhouse Effect, Atmospheric Pollution, Acid Rain	364-377 296-300 -
15.	Apr. 24 - Tu Apr. 26 - Th	ASTRONOMY - Introduction, Astronomical Distances Solar System, Galaxies	416-422 382-411
16.	Apr. 30-May 5	***FINALS WEEK - EXAM III***	-