COURSE OUTLINE
Revised 9/5/09

EAS 10000
PLANET EARTH
Fall 2009 – TTh 3:00 - 4:15PM – PHYS 112

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CIVIL Engineering Bldg., Room 2271 (Braile)
Office Hours: TTh 2:00 – 2:45PM (most days)
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Eas100 Home Page: http://web.ics.purdue.edu/~braile/eas100/eas100home.htm
Teaching Assistants: Clement Bataille, Office Hours: MWF 4:00-5:00pm;
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Xiaoliang Lu, Office Hours: WF 3:30-4:30pm
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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*, 5th Edition, Lutgens and Tarbuck, 2008

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 ~9/24)
   b. Midterm 12th week (~20%; material from Exam I through ~11/5)
   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 **Thursday, Oct. 15**. Paper due **Thursday, Nov. 19**. (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 Blackboard Vista.)**

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. **If you miss class, please obtain the notes from another student in the class.** There are also some outlines and some of the PowerPoint slides available at:
http://web.ics.purdue.edu/~braile/eas100/outlines.htm.

Note that the EAS 100 class is scheduled for two 75-minute time periods per week (Tuesday and Thursday, 3:00 - 4:15PM). 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 Blackboard Vista (http://www.itap.purdue.edu/tlt/blackboard/). You can link to Vista 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, Fall 2009

Week	Day	Topic	Assigned Reading pages (TEXT)
1.	Aug. 25 - Tu	**INTRODUCTION** - Course Content, Scientific Method	1-13
	Aug. 27 - Th	Metric, Why geoscience?	"
2.	Sept. 1 - Tu	Powers of Ten, Scale, Graphs and Maps, Models	"
	Sept. 3 - Th	Forces and Energy	300-308
3.	Sept. 8 - Tu	Geologic time, Periodicity	223-241
	Sept. 10 - Th	Uniformity vs. Catastrophism, Earth Processes	102-115, 223-230
4.	Sept. 15 - Tu	**EARTH SCIENCES** - Interior of the Earth	175-177
	Sept. 17 - Th	Chemistry of the Earth	17-61
5.	Sept. 22 - Tu	Plate Tectonics	129-155, 178-188
	Sept. 24 - Th	Plate Tectonics	129-155, 178-188
6.	Sept. 29 - Tu	*****EXAM I*****	-
	Oct. 1 - Th	Geological Hazards, Earthquakes	160-174
7.	Oct. 6 - Tu	Geological Hazards, Earthquakes	160-174
	Oct. 8 - Th	Geological Hazards, Volcanoes	193-220
8.	Oct. 13 - Tu	Hawaiian Volcanoes, Mt. St. Helens	193-220
	Oct. 15 - Th	**OCEANOGRAPHY** – Intro., Ocean Basin Morphology	245-262, 69-70
9.	Oct. 20 - Tu	Waters of the Ocean, Ocean Currents	85-96, 267-289
	Oct. 22 - Th	Waves and Tides, Shoreline Phenomena	"
10.	Oct. 27 - Tu	Marine Biology	-
	Oct. 29 - Th	Ocean Pollution, Oil Spills	-
11.	Nov. 3 - Tu	"	-
	Nov. 5 - Th	**ATMOSPHERIC SCI.** – Intro., Structure of Atmos.	293-309
12.	Nov. 10 - Tu	*****EXAM II*****	-
	Nov. 12 - Th	Circulation of the Atmosphere	350-364, 370-384
13.	Nov. 17 - Tu	Weather Forecasting	"
	Nov. 19 - Th	Climate	312-317
14.	Nov. 24 - Tu	Hurricanes, Tornadoes	384-391
	Nov. 26 - Th	***** No Class – Thanksgiving Holiday*****	
15.	Dec. 1 - Tu	Greenhouse Effect, Global Warming	306-311
	Dec. 3 - Th	Ozone Hole, Atmospheric Pollution, Acid Rain	306-311
16	Dec. 8 - Tu	**ASTRONOMY** - Introduction, Astronomical Distances	432-450
	Dec. 10 - Th	Solar System, Stellar Evolution, Galaxies	382-411, 398-427
17.	Dec. 14-Dec. 19	*****FINALS WEEK - EXAM III*****	-