SYLLABUS/COURSE OUTLINE

EAPS 10000 001 (EAPS 100) Planet Earth

Fall 2017 (CRN 17524) – TTh 12:00 noon - 1:15 p.m. – WTHR 200

Professor L. Braile

Department of Earth, Atmospheric, and Planetary Sciences (EAPS), HAMP (CIVL)
Room 2271; braile@purdue.edu (please use this email address; note only one “I” in braile)

Office Hours: TTh 1:20 – 2:00 p.m. (most days)

EAPS 100 Home Page: http://web.ics.purdue.edu/~braile/eas100/eas100home.htm

TAs: Zhou Lyu (Grader), Email: zlyu@purdue.edu, Office Hours: F 3:00-5:00 p.m., HAMP 4166; Claire Guthrie (Grader), Contact by email for appointment, Email: guthriecl@purdue.edu; Wendy Zhang (Grader), Contact by email for appointment, Email: zhan2214@purdue.edu

Secretary: Kathy Kincade – Room: HAMP 2169-D, Phone: 494-5984.

NOTE: Please read this syllabus completely and carefully. It answers many of the questions that commonly come up during the semester. You should also keep a copy of the syllabus handy to refer to during the semester. The syllabus/course outline is also available online (see EAPS 10000 course website listed above). EAPS 10000 is an approved course in Purdue’s Undergraduate Core Curriculum in the Science, Technology and Society (STS) area (http://www.purdue.edu/provost/initiatives/curriculum/index.html).

EDUCATIONAL OBJECTIVES: The EAPS 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 and appreciation of the basic characteristics, history, and processes of Planet Earth; the realization that we interact with these aspects of the Earth system every day; and the importance to the future of Earth science related issues such as energy, natural hazards and the environment.
- Enhance understanding of the interconnection between various Earth processes and topics.
- Emphasize potential human effects on Earth processes and related environmental issues.
- Recognize the interactions of Earth science and society in our increasingly technological world.
- 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, 8th Edition, Lutgens and Tarbuck, 2017 (be sure to get the 8th ed.; it is possible to use the 7th ed. – the content is almost all the same – but it takes some extra work because page and figure numbers differ). Additional information on textbook editions and options for purchase, e-text or rental, and obtaining the textbook can be found at: http://web.ics.purdue.edu/~braile/eas100/Textbook.2017.pdf.

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” (one card (!), both sides) or equivalent, with study information written on it, to the exams.)
   a. Midterm 6th week (~20% of grade; material in class through ~9/21/2017)
   b. Midterm 11th week (~20%; material in class from Exam I through ~10/31/2017)
   c. Final Finals week (~20%; material in class from Exam II through end of semester)
4) Quizzes or in-class activities/assignments, 8-10 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.]

5) Homework (6-7 assignments) (~25-30%) (Late homework is accepted but must be turned in by the last day of class. Some points will be deducted for late homework. Homework assignments 1-3 turned in after week 13 will be subject to a 25% deduction. Be sure to check your grades on BB Learn.)

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 scores 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 one of us 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.pdf. Although PowerPoint slides are available, we strongly encourage you to take notes so that you can write down the topology and main points covered each day in class (be sure to include a date for each day of the notes). The notes will help you in your study for exams by reminding you of the topics covered and emphasized (time spent on a topic) so that you can effectively study the slides and the textbook material to prepare for exams.

SCHEDULE: Note that the EAPS 100 class is scheduled for two 75-minute time periods per week (Tuesday and Thursday, 12:00 noon - 1:15 p.m.). 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 points from the exams, and quiz/homework categories. Grading will be on an "adjustable curve", not on a straight scale (>89 = A, 80-89 = B, 70-79 = C, etc.), or a fixed curve (top 10% of the class = 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, we 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, we 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.

To estimate your grade at any time in the semester, add up the points earned on graded assignments, and the possible points on those assignments; then calculate a percentage. You can use the straight scale (see above) to estimate your grade. For example, after the first exam, if your grades are: Qz 1 (10/10), Qz 2 (7/10), Hw 1 (24/30), Ex I (85/100), the total points are 126/150 which is 84%, so the estimated grade would be a B. However, the actual grade scale (curve) at the end of the semester is usually a little “easier” than the straight scale, and we also use the +/- system for the final letter grade, so the 84% might be a B or a B+. Of course, the grade estimates calculated fairly early in the semester may not produce very good estimates of your final grade. Also, remember that at the end of the semester, we drop each student’s lowest two quiz grades. There are usually 8 quizzes, so the maximum number of quiz points is usually 60 for the semester.

IMPORTANT NOTE: In recent semesters, there have been occurrences of students submitting homework papers in which answers were copied from another student’s paper. This is a serious violation of the university's academic honesty policy and will not be tolerated. Copying another student's paper, from any source!, is just wrong! It is also unfair to your fellow students who have worked hard, without taking credit for another student's work, and have done their own work in the course. Finally, copying very likely means that there was very little learning going on while completing the assignment - and learning is the primary goal of such assignments.
(Grades will be available on Blackboard Learn (https://mycourses.purdue.edu/). You can link to BB Learn from the EAS 100 web page: http://web.ics.purdue.edu/~braile/eas100/eas100home.htm. You can also link to the EAPS 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.

<table>
<thead>
<tr>
<th>Week</th>
<th>SCHEDULE: EAPS 100, Fall 2017</th>
<th>Assigned Reading Pages (Textbook)</th>
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| 1.   | Aug. 22 - Tu **INTRODUCTION** - Course Content, Scientific Method 2-21  
     Aug. 24 - Th Metric, Why geoscience? 2-21 |
| 2.   | Aug. 29 - Tu Powers of Ten, Scale, Graphs and Maps, Models 2-21  
     Aug. 31 - Th Forces and Energy 340-343 |
| 3.   | Sept. 5 - Tu Geologic Time 249-272  
     Sept. 7 - Th Uniformity vs. Catastrophism, Earth Processes 115-130, 250-257 |
| 4.   | Sept. 12 - Tu **EARTH SCIENCES** - Interior of the Earth 191-193  
     Sept. 14 - Th Chemistry of the Earth 23-76 |
| 5.   | Sept. 19 - Tu Plate Tectonics I 142-172, 191-210  
     Sept. 21 - Th Plate Tectonics II 142-172, 191-210 |
| 6.   | Sept. 26 - Tu ***EXAM I*** -  
     Sept. 28 - Th Geological Hazards, Earthquakes I 174-190 |
| 7.   | Oct. 3 - Tu Geological Hazards, Earthquakes II 174-190  
     Oct. 5 - Th Geological Hazards, Volcanoes 211-248 |
| 8.   | Oct. 10 - Tu **No class – October Break** -  
     Oct. 12 - Th Hawaiian Volcanoes, Mt. St. Helens 211-248 |
     Oct. 19 - Th Waters of the Ocean, Ocean Currents 299-327 |
     Oct. 26 - Th Marine Biology - |
| 11.  | Oct. 31 - Tu Ocean Pollution, Oil Spills -  
     Nov. 2 - Th ***EXAM II*** - |
| 12.  | Nov. 7 - Tu **ATMOSPHERIC SCI.** – Intro., Structure of Atmos. 329-359, 361-393  
     Nov. 9 - Th Circulation of the Atmosphere 395-443 |
     Nov. 16 - Th Climate 130-138, 343-357 |
| 14.  | Nov. 21 - Tu Greenhouse Effect, Ozone Hole, Atmos. Pollution, Acid Rain 343-357  
     Nov. 24 - Th ***Thanksgiving Break*** - |
| 15.  | Nov. 28 - Tu Hurricanes, Tornadoes 427-440  
     Nov. 30 - Th **ASTRONOMY** - Introduction, Astronomical Distances 483-503, 507-09 |
| 16.  | Dec. 5 - Tu Solar System 445-481  
     Dec. 7 - Th Stellar Evolution, Galaxies 483-503, 507-09 (App. C) |
| 17.  | Dec. 11-16 ***FINALS WEEK - EXAM III*** - |
CAMPUS EMERGENCY INFORMATION: In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Information will be posted on the course website as soon as possible. University closing updates and emergency information will be posted on Purdue’s home page – you can sign up for emergency text alerts. Text message sign-up procedures (and other emergency information) can be found on the Emergency Preparedness website at http://www.purdue.edu/emergency_preparedness/. Also, see emergency Quick Reference Guide (http://www.itap.purdue.edu/tlt/faculty/QuickRefGuide.pdf) and additional information on pages 4-6 of this document. For more information, an Emergency Procedures Handbook is available at http://www.purdue.edu/fire/safety_handbook.pdf.

Purdue University
Main Campus

Quick Reference Guide

For any emergency: Call 911

What to do...

Evacuation Procedures—Fire
- Activate a pull station
- When fire alarm is activated, evacuation is mandatory
- Warn others as you evacuate
- Once outside, call for help—dial 911
- Evacuate in accordance with the Building Emergency Plan or via the nearest exit
- Evacuate immediately—if possible take your belongings
- Evacuate to an area away from the building that does not impede responders
- Assist persons with disabilities, if possible
- Do not use elevators
- Do not re-enter the building until authorized by Public Safety officials

Shelter in Place—Active Threat
- Decide whether to run, hide, or fight
- If you decide to hide (shelter in place), seek a safe area in nearest facility. Lock or block the room door.
- Do not leave your area until authorized by Public Safety officials

Shelter in Place—Tornado Warning
- If the All Hazards Sirens are activated or you are notified of a warning, immediately seek shelter inside the nearest facility
- Proceed to the lowest level. If a basement is not available, seek an interior hallway or small interior room on lowest level, away from windows and doors
- ‘All clear’ will be announced over the local TV and radio stations or by the expiration of the initial National Weather Service warning

Shelter in Place—Hazardous Materials (HAZMAT) Release
- If advised to shelter for a HAZMAT incident, immediately seek shelter in nearest facility
- Close all windows, exterior doors, and any openings to the outside
- If possible, move to an interior room above ground floor with fewest windows and vents
- Do not leave the building until authorized by Public Safety officials

For more information: http://www.purdue.edu/emergency_preparedness/

Dec 19, 2016
Classroom Emergency Preparedness
Attachment for Class Syllabus

EMERGENCY NOTIFICATION PROCEDURES:

☐ Dial 911 from any public or campus telephone.

☐ Over 250 Emergency Telephone System (ETS)
  o For assistance push the ETS button which will connect you to the Purdue Police Department

☐ Immediate warning notifications focuses on two basic concepts:
  o Fire Alarms mean to immediately evacuate the building and proceed to your Emergency Assembly Area (should be specified in the Building Emergency Plan).
  o All Hazards Outdoor Emergency Warning Sirens means to immediately seek shelter (Shelter In Place) in a safe location within closest facility/building.

“Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, earthquake, release of hazardous materials in the outside air, or a civil disturbance. When you hear the sirens immediately go inside a building to a safe location and use all communication means available to find out more details about the emergency. Remain in place until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

(In both cases, you should seek additional clarifying information by all means possible...Purdue Home page, email alert, TV, radio, etc...review the Purdue Emergency Warning Notification System multi-communication layers at http://www.purdue.edu/emergency_preparedness/warning_system.htm)

EMERGENCY RESPONSE PROCEDURES:

☐ Purdue’s Emergency Procedures Guide should be periodically reviewed and referenced for all emergencies. Located at:
  https://www.purdue.edu/emergency_preparedness/flipchart/index.html

☐ Be familiar with the Building Emergency Plan (each building is required to have a BEP) for:
  o evacuation routes, exit points, and location to report for roll call after evacuating the building.
  o when and how to evacuate the building.
  o shelter in place procedures and locations
  o additional building specific procedures and requirements.

☐ Understand the University’s emergency warning notification system...Purdue ALERT http://www.purdue.edu/emergency_preparedness/warning_system.htm

EMERGENCY PREPAREDNESS AWARENESS VIDEOS

☐ "Shots Fired on Campus: When Lightning Strikes," is a 20-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: http://www.purdue.edu/securePurdue/news/2010/emergency-preparedness-shots-fired-on-campus-video.cfm (Link is also located on the EP website)
“To Hell and Back, College Fire Survival” is a 20-minute fire safety video. You must register to view the video. However, the People’s Burn Foundation will not send you e-mail or spam, and your information will not be shared with third parties. The People’s Burn Foundation collects demographic information to study cultural, age and gender awareness pertaining to fire and burn prevention. The video can be seen at: http://www.igot2kno.org/login.aspx?ReturnUrl=%2fcollege_fire_survival.aspx

MORE INFORMATION

Reference the Emergency Preparedness web site for additional information: http://www.purdue.edu/emergency_preparedness/index.htm

We have also been asked by the University Senate and the Provost’s office to include the following two items for students in our classes:

1. **CAPS (Counseling and Psychological Services) Information**: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and http://www.purdue.edu/caps/ during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

2. Place the **Purdue Honors Pledge** on the course syllabus, as well as exams and key assignments. The statement is “**As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.**” Also see page 2 of the syllabus for additional information on academic honesty.