

SYLLABUS/COURSE OUTLINE

EAPS 10000 001 (EAPS 100) *Planet Earth*

Fall 2018 (CRN 17524) – TTh 12:00 noon - 1:15 p.m. – EE 129

Professor L. Braile

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Room 2271; braile@purdue.edu (please use this email address; note only one “l” 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> Blackboard is only used for posting grades. All other course material is available from the EAPS 100 Home Page

TAs: Mingyang Guo, contact by email for appointment, Email: guo410@purdue.edu, John Cole, contact by email for appointment, Email: cole125@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. Exam I 6th week (~20% of grade; material in class through ~9/20/2018)
 - b. Exam II 11th week (~20%; material in class from Exam I through ~10/25/2018)
 - c. Exam III 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. There is good evidence that attendance and taking notes in class 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 topics 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 of 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 (A, A-, B+, B, B-). 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.

ADDITIONAL SUGGESTIONS: For homework assignments (distributed in class), you will need a calculator and a ruler (inch and centimeter scale). A stapler is also useful for papers that become separated. For all hand-written work (homework, quizzes, exams), please write or print legibly - if we cannot read answers, score will be 0.

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. 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.

Week	SCHEDULE: Day	EAPS 10000, Fall 2018 Topic	Assigned Reading Pages (Textbook)
1.	Aug. 21 - Tu Aug. 24 - Th	INTRODUCTION - Course Content, Scientific Method Metric, Why geoscience?	2-21 2-21
2.	Aug. 28 - Tu Aug. 30 - Th	Powers of Ten, Scale, Graphs and Maps, Models Forces and Energy	2-21 340-343
3.	Sept. 4 - Tu Sept. 6 - Th	Geologic Time Uniformity vs. Catastrophism, Earth Processes	249-272 115-130, 250-257
4.	Sept. 11 - Tu Sept. 13 - Th	EARTH SCIENCES - Interior of the Earth Chemistry of the Earth	191-193 23-76
5.	Sept. 18 - Tu Sept. 20 - Th	Plate Tectonics I Plate Tectonics II	142-172, 191-210 142-172, 191-210
6.	Sept. 25 - Tu Sept. 27 - Th	*** EXAM I *** Geological Hazards, Earthquakes I	- 174-190
7.	Oct. 2 - Tu Oct. 4 - Th	Geological Hazards, Earthquakes II Geological Hazards, Volcanoes	174-190 211-248
8.	Oct. 9 - Tu Oct. 11 - Th	No class – October Break Hawaiian Volcanoes, Mt. St. Helens	- 211-248
9.	Oct. 16 - Tu Oct. 18 - Th	OCEANOGRAPHY – Intro., Ocean Basin Morphology Waters of the Ocean, Ocean Currents	273-297 299-327
10.	Oct. 23 - Tu Oct. 25 - Th	Waves and Tides, Shoreline Processes, Tsunami Marine Biology	188-191, 299-327 -
11.	Oct. 30 - Tu Nov. 1 - Th	Ocean Pollution, Oil Spills *** EXAM II ***	- -
12.	Nov. 6 - Tu Nov. 8 - Th	ATMOSPHERIC SCI. – Intro., Structure of Atmos. Circulation of the Atmosphere	329-359, 361-393 395-443
13.	Nov. 13 - Tu Nov. 15 - Th	Weather Forecasting Climate	395-414 130-138, 343-357
14.	Nov. 20 - Tu Nov. 22 - Th	Greenhouse Effect, Ozone Hole, Atmos. Pollution, Acid Rain No class on Tuesday, Nov. 20 – we will have an assigned worksheet (Hw) for the material listed here (due 12/4) *** Thanksgiving Break ***	343-357 -
15.	Nov. 27 - Tu Nov. 29 - Th	Hurricanes, Tornadoes ASTRONOMY - Introduction, Astronomical Distances	427-440 483-503, 507-09
16.	Dec. 4 - Tu Dec. 6 - Th	Solar System Stellar Evolution, Galaxies	445-481 483-503, 507-509 (App. C)
17.	Dec. 10-15	*** FINALS WEEK - EXAM III ***	-

CAMPUS EMERGENCY INFORMATION: For more information, an Emergency Procedures Handbook is available at http://www.purdue.edu/fire/safety_handbook.pdf.

PURDUE UNIVERSITY EMERGENCY PROCEDURES QUICK REFERENCE GUIDE

FOR ANY EMERGENCY: CALL 911

WHAT TO DO...

EVACUATION PROCEDURES--FIRES

- Activate the alarm
- When fire alarm is activated, evacuation is *mandatory*
- Call for help—dial 911
- Warn others
- Evacuate in accordance with the Building Emergency Plan or at the nearest exit
- Evacuate immediately—if possible take your belongings
- Evacuate to an area 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—TORNADO WARNING

- If the All Hazards Sirens are activated or you are notified of a warning, immediately seek shelter in 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 doorways
- All clear will be announced over the local TV and radio stations or 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 and lock all windows exterior doors, and any opening 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

SHELTER IN PLACE—ACTIVE THREAT

- If advised to shelter for an active threat incident, immediately seek shelter in nearest facility
- If possible, secure yourself and others inside a room
- Do not leave your area until authorized by Public Safety officials

How you will be notified...Purdue ALERT (Our emergency warning notification system)

- All-Hazards Emergency Warning sirens: (*Shelter In Place*)
- Fire alarms: (*Evacuate* the building)
- Text messaging: Sign up via the Campus Status Page to receive an emergency notification text message.
- Twitter: Follow @PurdueEmergency to receive information on emergencies.
- Desktop Popup Alerts: Alert will be sent to the majority of University classroom & lab computers.
- Alert Beacons: Alert will be sent to the beacons that are installed in large classrooms.
- Email: An e-mail will be sent to all people with a **purdue.edu** address.
- Web: Purdue Campus Status page, www.purdue.edu/ea, is the focal point of the most complete information in all campus-related emergencies.
- Boiler TV: The Boiler Television Emergency Alerting System may also broadcast emergency information.
- Local Media: The University works with the news media, radio, TV, newspapers, and Internet, to help spread the word.

FOR MORE INFORMATION: http://www.purdue.edu/emergency_preparedness/

NON EMERGENCY PHONE #s:

Purdue Police Department: 494-8221

Purdue Fire Department: 494-6919

Physical Facilities Services: 494-9999

Radiological & Environmental Management: 494-6371



Response to Alarms:

REMEMBER, WHEN YOU HEAR:

- ALL HAZARDS OUTDOOR WARNING SIRENS immediately seek shelter (**Shelter-In-Place**) in a safe location within closest facility
- FIRE ALARMS immediately **evacuate** the building and move to a safe location

In both cases, you should seek additional clarifying information by all possible means - Purdue Homepage, TV, radio, email, etc.

Classroom Emergency Preparedness Attachment for Class Syllabus

EMERGENCY PREPAREDNESS SYLLABUS ATTACHMENT

EMERGENCY NOTIFICATION PROCEDURES are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- Indoor Fire Alarms mean to stop class or research and immediately evacuate the building. o Proceed to your Emergency Assembly Area away from building doors. Remain outside until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

- All Hazards Outdoor Emergency Warning Sirens mean to immediately seek shelter (Shelter in Place) in a safe location within the closest building. o “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, an active threat including a shooting or release of hazardous materials in the outside air. Once safely inside, 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 Emergency Status page, text message, Twitter, Desktop Alert, Albertus Beacon, digital signs, email alert, TV, radio, etc....review the Purdue Emergency Warning Notification System multi-communication layers at*

http://www.purdue.edu/ehps/emergency_preparedness/warning-system.html

EMERGENCY RESPONSE PROCEDURES:

- Review the Emergency Procedures Guidelines

https://www.purdue.edu/emergency_preparedness/flipchart/index.html

- Review the Building Emergency Plan (available on the Emergency Preparedness website or from the building deputy) for: evacuation routes, exit points, and emergency assembly area, when and how to evacuate the building, shelter in place procedures and locations, additional building specific procedures and requirements.

EMERGENCY PREPAREDNESS AWARENESS VIDEOS

- "Run. Hide. Fight.®" is a 6-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: https://www.youtube.com/watch?v=5mzl_5aj4Vs (Link is also located on the EP website)

MORE INFORMATION:

Reference the Emergency Preparedness web site for additional information:

https://www.purdue.edu/ehps/emergency_preparedness/

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.

More Information On Academic Dishonesty

DEFINITION OF ACADEMIC DISHONESTY

Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty" (*Section B.2.a of the Student Regulations*, https://www.purdue.edu/studentregulations/student_conduct/regulations.html). Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of ghostwritten papers, the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest" (University Senate Document 72-18, December 15, 1972).

ACADEMIC INTEGRITY

Purdue University values intellectual integrity and the highest standards of academic conduct. To be prepared to meet societal needs as leaders and role models, students must be educated in an ethical learning environment that promotes a high standard of honor in scholastic work. Academic dishonesty undermines institutional integrity and threatens the academic fabric of Purdue University. Dishonesty is not an acceptable avenue to success. It diminishes the quality of a Purdue education which is valued because of Purdue's high academic standards" (S. Akers, *Academic Integrity, A Guide for Students*, 1995, revised 1999, https://www.purdue.edu/odos/osrr/resources/documents/academic_integrity.html).

Incidents of academic misconduct in this course will be addressed by the course instructor and may be referred to the Office of Student Rights and Responsibilities (OSRR) for review at the university level. Any violation of course policies as it relates to academic integrity will result minimally in a failing or zero grade for that particular assignment, and at the instructor's discretion may result in a failing grade for the course. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal from the university, may be considered.

All course required course materials (quizzes, homework assignments, exams) are copyrighted materials and are the intellectual property of L.W. Braile, Purdue University, and cannot be reproduced or distributed on the Internet or by any other methods.