Dynamic Earth GG101 - Spring 2018

Class meeting room and time - POST 723, Lecture MWF 9:30 ~ 10:20 am
Dr. Fletchers Office, POST 802A, fletcher@soest.hawaii.edu, cell 808-294-0386 (call my cell, text me, or email me anytime)
Office hrs. email or text to set a specific meeting; MWF 4-5 pm and by appointment.
If you like I can hold a regular review session outside of class – get some students together and just ask.
Also, if you want to meet one on one or as a group immediately following class we can do that for 30 mins or so.
We will be using Wiley Engage this semester. Engage is an online platform that provides homework exercises and extra credit.


Week of Topic
Jan 8 How does this course work? Plastic Ocean, Ocean Circulation (Chapters 1 and 21)
Jan 15 Plankton, Marine Sediment, Reefs (Chapter 21)
Jan 22 Weathering, Sedimentary Rock (Chapters 7 and 8)
Jan 29 Continental Margin, Plate Tectonics (Chapter 3)
Feb 5 Plate Tectonics, Metamorphic Rock, Earth Origin (Chapters 2, 3, 9)
Feb 12 Volcanoes, Minerals, Igneous Rock (Chapters 4, 5, 6)
Feb 19 Review Exam I
Feb 26 Climate Change (Chapter 14)
Mar 5 Climate Change (Chapter 14)
Mar 12 Climate Change, Glaciers (Chapter 14 and 15)
Mar 19 Surface Water, Groundwater (Chapter 17 and 18)
Mar 26 Coastal Geology (Chapter 20)
Apr 2 Review Exam II
Apr 9 Geologic Time, Earth History (Chapter 12 and 13)
Apr 16 Earth History, Earthquakes (Chapter 13 and 11)
Apr 23 Mountain Building (Chapter 10)
Apr 30 Review Exam III

Learning Objectives By the end of the semester:

1) You will recognize that you are a caretaker of planet Earth. This will inform your personal and professional decisions such as voting, investing, purchasing, service, life-style options, and other choices that you will make.
2) You will be able to discuss topics related to geologic hazards, geologic resources, Earth history, evolution, environmental conservation, mountain building, and why there are oceans and continents.
3) You will be able to categorize the various types of plate boundaries and the processes that operate there.
4) You will be able to explain to someone: what is paleoclimate, why climate is changing today, how climate change is affecting Hawaii, and your thoughts about climate change adaptation and mitigation.
5) You will be able to describe the role of silica (SiO₂) in the whole Earth, in rocks and minerals, in volcanoes, in weathering, in the ocean, and in plate tectonics.

What to Expect

1) This is an introductory Earth and Environmental Science class.
2) Most class periods are lecture-based with short videos.
3) For most students, the difficulty of the class comes from a new vocabulary and new concepts that can be complicated.
4) I try to minimize jargon but the concepts are important to learn, you will need to learn a certain amount of new vocabulary.
5) We cover a lot of material and we move at a quick pace. You need to attend each class, participate in class, stay on top of the reading, do every homework, and take advantage of the extra credit exercises.
6) Work hard, show up, respect your role as a learner, and you will be rewarded.

Resources

1) I am available after class if you want to talk about anything (such as something that you did not understand in class).
2) I am happy to hold recitations to answer your questions and review material Let me know if you would like to do this.
3) There will be practice tests available before every test.
4) The class period before each test we will review what is on the test.
5) The assessment questions you answer as homework relate to the test and are sometimes on the test.
6) Extra Credit exercises are announced in class.

Required

1) Purchase the enhanced eText, or hardcopy, of Physical Geology by C. Fletcher, 3rd edition, plus Engage
Workload/Grading
1) Reading – The reading averages about 1 chapter per week (30 pages) sometimes more. We will cover ~16 chapters total.
2) Attendance, in-class assessment, and homework are worth 30% of your grade.
3) Exams are worth 70% of your grade. Each exam is cumulative. There are 3 exams total.
4) Extra Credit – I will announce extra credit opportunities in class that will be due the following class meeting.

Testing
1) We will have 3 exams.
2) You may bring notes to each exam:
   a. EXAM I – 4p. of notes
   b. EXAM II – 8p. of notes
   c. EXAM III – 12p. of notes
3) The exams are cumulative so your notes will build over the semester.
4) Exams will have 2 parts:
   a. Solo test – you will take a test with 30 questions in 30 minutes.
   b. Group test – you will take the exact same test with 2 or 3 other students. You will only have 20 minutes to complete it. The group will have to agree on a single right answer to put on the test. Everyone in the group puts their name on a single test.
   c. Your exam grade will be a ratio of these 2 parts: typically, 80/20. But I may change this ratio is the class average is too low.

Sexual Harassment
The University of Hawai’i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, the University has staff and resources on your campus to support and assist you. Staff can also direct you to resources that are in the community. Here are some of your options:

As members of the University faculty, your instructors (including me) are required to immediately report any incident of potential sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and your instructors cannot guarantee confidentiality, you will still have options about how your case will be handled. Our goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

If you wish to remain ANONYMOUS, speak with someone CONFIDENTIALLY, or would like to receive information and support in a CONFIDENTIAL setting, use the confidential resources available here (and see below).
http://www.manoa.hawaii.edu/titleix/resources.html#confidential

If you wish to directly REPORT an incident of sex discrimination or gender-based violence including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence or stalking as well as receive information and support, contact: Dee Uwono Title IX Coordinator (808) 956-2299 t9uhm@hawaii.edu; or contact me and I will take you to the Title IX office.

Confidential Reporting
University of Hawaii students, faculty and staff have an important resource to confidentially report violations of laws, rules, regulations and UH policies. A whistleblower hotline launched in June 2016 further advances the university's commitment to encourage and enable any member of UH or the general public to make good faith reports of misconduct.

UH Whistleblower Hotline: 1-855-874-2849
For more information go to UH News at http://go.hawaii.edu/coj

Department Learning Objectives
The Department of Geology and Geophysics has established the following undergraduate student learning objectives.

• Students can explain the relevance of geology and geophysics to human needs, including those appropriate to Hawaii, and be able to discuss issues related to geology and its impact on society and planet Earth.
• Students can apply technical knowledge of relevant computer applications, laboratory methods, and field methods to solve real-world problems in geology and geophysics.
• Students use the scientific method to define, critically analyze, and solve a problem in earth science.
• Students can reconstruct, clearly and ethically, geological knowledge in both oral presentations and written reports.
• Students can evaluate, interpret, and summarize the basic principles of geology and geophysics, including the fundamental tenets of the sub-disciplines, and their context in relationship to other core sciences, to explain complex phenomena in geology and geophysics.