ERTH200 Geologic Inquiry **Spring 2018**
Text: Earth System History (4th Edition) by Stanley & Luczaj, (2014)

Instructor: Greg Ravizza, POST 712, 808 348-4159, *ravizza@hawaii.edu*
Lecture: M W F 10:30 – 11:20 **Lab: M 12:30 – 3:20 PM**
Classroom for lecture and lab: POST 708

Prerequisites: An introductory geology course (ERTH101 or comparable) and an introductory geology lab (ERTH101L or comparable). The ERTH 101 lab may be taken concurrently, but this is not encouraged.

Tentative weekly schedule of lecture topics

Week	*Topic*	*Reading**
1	Review: History of Geology & Earth Structure	Chpters 1,2 & 8
2	Review of Plate Tectonics & Plate Motions	Chpters 1,2 & 8
3	Diversity of Life	Chapter 3 & 10
4	The Modern Earth System & Paleoproxies	Chapter 4 & 10
5	Facies and Depositional Environments	Chapter 5
6	Evolution: Selection, Speciation & Extinction	Chapter 7
7	Time Scale, Geochronology & Paleomagnetism	Chapter 6
8	Stable Isotopes & Geochemical Cycles	Chapter 10
9	**Midterm (March 9 in lab)** & Hadean	Chapter 11
10	Spring Break	
11	More Archean, Early Proterozoic: Rise of Oxygen,	Chapter 11, 12
12	Neoproterozoic Glaciations, & The First Animals , Paleozoic Life: Cambrian Explosion to the Rise of Plants	Chapters 12, 13
13	Ordovician Radiation & Rise of Plants	Chapters 13-15
14	Paleozoic Orogenesis (North Am.) & Mass Extinctions	Chapters 14 -17
15	Paleogene – Greenhouse Earth & Onset of Glaciation	Chapter 18
16	The Neogene – Icehouse Earth	Chapter 19
17	Holocene – the current interglacial	Chapter 20
	Final Exam (Friday May 15, 9:45 – 11:45)	

*Note: Specific page numbers for assigned reading will be given in lecture power point files. These files will be posted in Laulima under "Resources" & organized by week.

ERTH200 is designated as a writing intensive ("WI") course this term. Writing assignments will account for 45% of you final grade in the course. There are 2 types of writing assignments required for the course. All "WI" assignments must be posted to

your Laulima dropbox as a Microsoft word document or a file that can be converted to a MS word document.

(1) **Essays related to course content:** Three (700 - 800 words) essays related to the content from lab and lecture are required. You will be given the opportunity to revise and resubmit these essays in order to improve your grade, if you first attempt earns a grade you are dissatisfied with. (21% of course grade; 7% each)
(2) **Events in Earth History:** The final product will be a brief summary of an important event in Earth History in encyclopedia format. Before preparing your final summary you will be required to compare and contrast different sources describing your event. A separate handout gives more detail on this assignment. This project is intended to help students develop the ability to read and think critically when they encounter conflicting viewpoints. (24% of the course grade; >2400 words plus appropriate figures)

Testing & Grading: The final grade for the course will reflect the students' performance on exams, lab assignments and on writing assignments outlined above. The weighting is as follows: mid-term (15%), final exam (20%), lab quizzes and other lab assignments (not graded as WI; 20%), and writing assignments (45%; detailed above).

Course content and its relationship to student learning objectives (SLOs): Geologic Inquiry (ERTH200) is a course designed for ERTH majors to build a strong foundation in important geologic concepts, serving as a bridge between ERTH101 and upper division ERTH course work. The course is open to non-majors who meet the prerequisites if space is available. ERTH200 builds upon content introduced in ERTH101, such as the theory of plate tectonics, geologic time, biogeochemical cycles and the fossil record. These concepts are further developed in ERTH200 in the context of how geoscientists go about reconstructing Earth's history and understanding the processes responsible for changes in the Earth system over time. In this course students will gain a better appreciation for the role of geologic processes in maintaining conditions suitable for life on Earth and some of the ways human activities are altering important natural processes (SLO 1). Students will be introduced to making simple calculations in Google Sheets and use these calculations to gain an appreciation of how math, physics and chemistry can be applied to the study of the Earth (SLO 2). Examples of how the scientific method is applied to testing hypotheses in the geosciences will be presented (SLO 3). ERTH200 is taught as a writing intensive course and students are required to develop their ability to express geologic information and ideas in a written format (SLO 4).

Student Learning Objectives (SLOs) associated with the BA and BS degrees in Geology & Geophysics.

1. 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.

2. Students can apply technical knowledge of relevant computer applications, laboratory methods, field methods, and the supporting disciplines (math, physics, chemistry,

biology) to solve real-world problems in geology and geophysics.

3. Students use the scientific method to define, critically analyze, and solve a problem in earth science.

4. Students can reconstruct, clearly and ethically, geological knowledge in both oral presentations and written reports.

5. 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.

Laulima: Course resources (power point images from lecture and handouts) will be posted on Laulima under the "resources" link on the course site. In addition all writing assignments must be turned in electronically by posting either a MS word or pdf document. To do this follow the "drop box" link to access your personal folder. To access the Laulima course web site use a web browser to visit the following address: https://laulima.hawaii.edu/portal. Click on the tab with the heading: ERTH200-001.

Attendance: Although attendance is not formally scored, regular attendance is expected. A pattern of poor attendance can negatively affect your grade. Students should attend lecture because not all material included in exams is contained in the text. In addition individual student assignments are given during lectures. Students are responsible for completing these assignments by the due date given. *Attendance at the lab is required*. One important reason for having a lab is to expose you to a variety of maps, as well as rocks & fossils as hand specimens. If you miss the lab, you miss this part of the course content & will be marked down accordingly.

Note regarding laptops: For several ERTH 200 labs we will use Google Sheets – a spreadsheet program similar to Microsoft excel. Students are required to bring laptops to these lab meetings. The laptop you bring must have the capability to access your Google Drive using your UH log-in. You will be reminded via email (Laulima class mailing list) on the Friday prior to "Google Sheets" labs to bring your laptop to class. While tablets can be used to access Google Sheets, you are discouraged from doing this for ERTH 200 labs. If you accessing a laptop is a problem for you, please let the instructor know ASAP.

LATE POLICY FOR ERTH200 ASSIGNMENTS
In order to motivate people to turn in their work in a timely manner the following policies regarding turning in lab assignments will be used throughout the semester.

1. All lab assignments must be turned into the course instructor at the start of lab on the day they are due, unless indicated otherwise by email to the class from the instructor.
2. Late assignments will be marked down.
3. If you become ill and cannot attend lab, I will accept medical excuses from a doctor.

4. Note that assignments that are required for in class work will not receive any credit for being late. This is especially important for lab prep assignments & peer review of written assignments in lab.

Requirement to submit quality work: In addition if labs come in with questions incompletely answered or written so sloppily that they are difficult to read they will be marked down. Specifically extremely sloppy or badly written labs will be marked down by 15%.

Title IX: 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 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**: 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 UwonoTitle IX Coordinator (808) 956-2299 t9uhm@hawaii.edu.