ERTH 305, FIELD METHODS (Writing Intensive), Spring Semester 2021

Instructor: Scott Rowland (POST 617A, 956-3150, *scott@hawaii.edu*)

TIME: Fridays 11:30-12:20, POST 703, Saturdays 8:00-4:00, IN THE FIELD!

(Friday topics, **Reading from Bates *et al.*, Homework (due date),** big Assignment deadlines, ***Saturday exercises***), ***SLOs**

Jan. 15	Fri	Introduction, requirements, purpose, equipment, SLOs*		**Outcrop Writing (Jan 24)**	**1**
Jan 16	***Sat***	***Field notes and sketches, pace, strikes, dips, compass mapping***			**2**
Jan 22	Fri	Geological Writing, UTM	**Chapters 1-3**	**Geo. Map I (Jan 31)**	**1, 4**
Jan 23	***Sat***	***Locating yourself in the field, Makapu'u leveling and filled lava tube (due Jan 26)***			**2, 3, 5**
Jan 29	Fri	Hand-held GPS	**Chapters 4-6**	**Topo Lines (Feb 7)**	**1, 5**
Jan 30	***Sat***	***Makapu'u section***			
Feb 5	Fri	GPS software	**Chapters 7, 8**	**HB Intro (Feb 14)**	**2**
Feb 6	***Sat***	***Start Hanauma Bay mapping project***			**3, 4, 5**
Feb 12	Fri	Air photo interpretation, Hanauma Bay Intro. draft due	**Chapters 12-14**	**Air Photo Interp. (Feb 21)**	**2**
Feb 13	***Sat***	***Continue Hanauma Bay project***			**3, 4, 5**
Feb 19	Fri	Creating nice maps and diagrams (by SOEST Pubs)		**Geo. Map II (Feb 28)**	**2, 3, 4, 5**
Feb 20	***Sat***	***Continue Hanauma Bay project***			**3, 4, 5**
Feb 26	Fri	Contouring data, Intro. to pyroclastic mapping	**Chapters 9-11**	**Contours (Mar 6)**	**2**
Feb 27	***Sat***	***Tantalus isopleths***			**3, 4, 5**
Mar 5	Fri	Mojave Intro. I	**Chapters 12-14**		**2**
Mar 6	***Sat***	***Lē`ahi mapping with ERTH 101L***			**3, 4, 5**
Mar 8	Mon	Hanauma Bay drafts due (4:00 pm)			
Mar 11	***Thu***	***California trip starts***			**2, 3, 4, 5**
Mar 22	***Tue***	***California trip pau***			
Mar 26		No class			
Mar 27	***Sat***	***No class - Work on Hanauma Bay and California projects - don't go surfing***			
Mar 29	Mon	Hanauma Bay final projects due 4 pm			
Apr 2	Fri	Mojave slide show			
Apr 3	***Sat***	***No class - Work on California projects – don't drink all day***			
Apr 9	Fri	No class			
Apr 10	***Sat***	***No class - Work on California project – don't slack off***			
Apr 16	Fri	California project first draft due 4:00 pm			
Apr 17	***Sat***	***No class – Work on California project – don't despair, you're almost there!***			
Apr 23	Fri	No class – California drafts returned			
Apr 24	***Sat***	***No class – Work on California project – don't despair, you really are almost there!***			
May 10	Mon	California projects due, 12:00 noon			

ERTH 305 is where you put all that class and lab learning to use outside in the real world. You will figure out where you are on a map, figure out what the rocks and minerals are (without thin sections), determine the rocks' orientations, and construct a 4-d picture of the geological relationships and history. This is why most people go into geology – so that they can work outside, even if it is hot, dry, dusty, rainy, cold, and/or windy. You will apply and reinforce your knowledge of the three abilities that most people will expect of you if you say you are a geologist: 1) identify rocks and minerals; 2) orient yourself with, read, and utilize maps; and 3) think in 4 dimensions.

This is a W-focus course and your grade will depend heavily on your ability to present results clearly and concisely in written form. Good writing is a requirement for any Earth Science career, be it research or applied. Even if you are the best geologist in the world, nobody will care if you can't write about your results. Writing assignments will include short descriptions of field outcrops and maps, and two long reports (Hanauma Bay and Mojave Desert). Each of the long reports will be 15-20 pages long (double-spaced), and will include an Abstract, Introduction, Data/Observations, Interpretation, Conclusion, and References sections. You will submit rough drafts for comments on the content and organization of your paper; you are not submitting the rough draft for me to correct your grammar or spelling! Please read the writing soapbox (a separate handout) before turning in any written assignments.

Required Things for All Assignments

I WILL BE PURPOSELY VERY PICKY ABOUT ALL THESE THINGS

1. If you draw a cross section from a map, you have to show where the cross section is on the map and you have to indicate the orientation of the cross section (e.g. NW on one end, SE on the other).
2. All maps must have a scale-bar, North arrow, title, and your name
3. All stratigraphic sections and cross sections must have a vertical scale
4. Vertical exaggeration must be stated (if there is none, say so)
5. Any symbol, color, map unit that is on your map needs to be in the legend
6. All written assignments are to be turned in double-spaced, hard-copy (double-sided is encouraged)
7. The only web-based references you should use for scholarly work are things such as G^3: http://www.agu.org/journals/gc/ or online versions of peer-reviewed print journals. ***Wikipedia* and *Yahoo Answers* DO NOT COUNT AS SCHOLARLY REFERENCES!!**

***SLOs - Student Learning Objectives**

Earth Sciences undergraduate courses have to consider how they address a number of SLOs, which the Earth Sciences Department has decided are key attributes and/or abilities of any Earth Sciences student:

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, and field methods 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.

THE MOJAVE DESERT TRIP (a poor replacement for Field Camp, but all the Dept. has ever offered)

The typical costs that you will incur are airfare, motel+gas, and food. The rental vehicles are covered by the Dept.

At the moment the airfares look to be in the $600-$800 range. You will make, and pay for, your own reservations. Aim to arrive in Las Vegas (LAS) by 9:00 am on March 13, and to leave LAS no sooner than 9:00 pm on March 24. If you've got Christmas $$ burning a hole in your pocket, book your flight now!

The lodging+gas+dinners costs are typically in the $300 range. I used to pay these myself during the trip, and asked for reimbursement. Unfortunately, there have been times when one or more students hasn't paid me back. So now I ask for a deposit of $200 before we leave.

You will pay for your breakfasts, lunches, and a couple dinners yourselves during the trip; most dinners will be communal. Please don't just watch Scott cook – feel free to help! The total food cost will therefore vary depending on where you choose to eat. It is possible to eat breakfast and lunch on $<10/day, for a total of ~$110.

Anyway, what you want to know is that the total that each of you can expect to pay is $600 (airfare) + $300 (lodging+gas+dinners) + $110 (lunch + breakfast) ≈ $1100. Before you complain, note that Field Camp, which is required for graduation from most decent Geology programs (see below), costs $2000 to $3000!

More Stuff + ERTH305 photos at:
http://www.soest.hawaii.edu/GG/FACULTY/ROWLAND/GG305/GG305_webpage01.htm

The unofficial texts for this course are Geowriting (5th edition) by Robert Bates, Marla Adkins-Heljeson, and Rex Buchanan: ***http://www.agiweb.org/pubs/pubdetail.html?item=300324*** and Basic Geological Mapping by Barnes and Lisle (a digital version will be provided to you). There will be additional handouts and occasional reading from Field Geology Illustrated by Terry Maley (recently re-published by Mineral Land Publications, Boise Idaho), and Manual of Field Geology by Robert R. Compton (a classic, now out of print, that you should snag if you ever see a copy). You might also want to dust off your old Intro. Geology lab manual, and your Mineralogy, Petrology, Sed-Strat, and Structural Geology notes.

Individual Saturday projects are due at the start of the following class. Homework assignments (green on syllabus) are due at the start of class on the due date. Hanauma Bay and California drafts and final versions must be turned in on the dates indicated. Late assignments are not accepted – turn in what you have when it is due, even if incomplete (partial credit is better than zero credit).

For safety in the field, you are encouraged to work in pairs or groups of 3. ***However, each student must turn in his or her own individual maps, cross-sections, and reports****.*

Grading will be weighted towards the large projects (Hanauma Bay and California), with the smaller, one-day projects and homework counting for less individually. Because this is a Writing-Intensive course you are required to turn in rough drafts of the two largest projects; ***these rough drafts count as significant parts of your scores for these projects***. I will make comments on the rough drafts and hand them back as fast as I can so you'll have enough time to revise your final versions. In those rough drafts, I am much more interested in your writing; maps and diagrams can be xeroxes of field maps and diagrams. Of course, in the *final* drafts, the maps and diagrams have to be nice. *There are no exams.*

ASSIGNMENT	%TOTAL GRADE
1-day projects	30
Hanauma Bay (draft, final report, maps, sections, interpretation)	20
California (3 exercises w/ drafts, maps, sections, interpretation)	40
Homework	10

The grade on all assignments, regardless of size, will be based on the following:

- -accuracy of work
- -amount of detail
- -validity of interpretation
- -presentation/neatness

The only way to get out of taking ERTH305 is to enroll in a real summer Field Camp offered by a mainland university. If you can, this is actually quite better. It will cost you more $$ (but the Dept. has funds to help with the cost), and you will work harder. But you will learn a heck of a lot more.
Recommendations include Oregon State: ***http://ceoas.oregonstate.edu/academics/field/geology/***
Idaho State: ***http://geology.isu.edu/FieldCamp/***
SUNY Buffalo: ***http://www.geology.buffalo.edu/fieldwork/fieldCamp.shtml***
See also: ***http://geology.isu.edu/FieldCamp/howto.htm*** and ***http://geology.com/field-camp.shtml***

If you have a disability and related access needs the Department will make every effort to assist and support you. For confidential services students are encouraged to contact the Office for Students with Disabilities (known as "Kōkua") located on the ground floor (Room 013) of the Queen Lili'uokalani Center for Student Services.

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 Uwono,Title IX Coordinator (808) 956-299 t9uhm@hawaii.edu