GG 305, FIELD METHODS (Writing Intensive), Spring Semester

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

TIME: Fridays for 1 hour, Saturdays 8:00-4:00, IN THE FIELD!

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

Week 1 Fri	Introduction, requirements, purpose, equipment, SLOs*		**Outcrop Writing**	**1**
Week 1 Sat	***Field notes and sketches, pace, strikes, dips, compass mapping***			**2**
Week 2 Fri	Geological Writing, UTM	**Chapters 1-3**	**Geo. Map I**	**1, 4**
Week 2 Sat	***Locating yourself in the field, Makapu'u leveling and filled lava tube***			**2, 3, 5**
Week 3 Fri	Stratigraphic sections, Geologic maps	**Chapters 4-6**	**Geo. Map II**	**1, 5**
Week 3 Sat	***Cross-sections, Stratigraphic section at Makapu'u***			
Week 4 Fri	Hand-held GPS	**Chapters 4-6**	**Topo Lines**	**1, 5**
Week 4 Sat	***Start Hanauma Bay mapping project***			**5**
Week 5 Fri	GPS software	**Chapters 7, 8**	**Grand Canyon**	**2**
Week 5 Sat	***Continue Hanauma Bay project***			**3, 4, 5**
Week 6 Fri	Air photo interpretation	**Chapters 12-14**	**Air Photos**	**2**
Week 6 Sat	***Continue Hanauma Bay project***			**3, 4, 5**
Week 7 Fri	Creating nice maps and diagrams (by SOEST Pubs)			**2, 3, 4, 5**
Week 7 Sat	***Wai'anae dry-heat mapping practice***			**3, 4, 5**
Week 8 Fri	Contouring data, Intro. to pyroclastic mapping	**Chapters 9-11**	**Contours**	**2**
Week 9 Sat	***Tantalus isopleths***			
Week 10 Fri	Mojave Intro. I, Hanauma Bay drafts due	**Chapters 12-14**		**2**
Week 10 Sat	***Rock Identification practice (due after Mojave)***			**3, 4, 5**
Week 11 Thu	***California trip starts***			**2, 3, 4, 5**
Week 12 Mon	***California trip pau***			
Week 12 Fri	No class			
Week 12 Sat	***No class - Work on Hanauma Bay and California projects - don't go surfing***			
Week 13 Fri	Mojave slide shows			
Week 13 Sat	***No class - Work on California projects***			
Week 14 Fri	California project first draft due			
Week 14 Sat	***No class - Work on California project – don't slack off***			
Week 15 Fri	No class – California drafts returned			
Week 15 Sat	***No class – Work on California project***			
Week 16 Fri	No class – Work on California projects			
Week 16 Sat	***No class – Work on California project***			
Week 17 Mon	California projects due, 12:00 noon			

Course Learning Objectives (CLOs): GG305 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, applying knowledge of sedimentology, petrology, structural geology, and geologic history to real-world examples. You will apply and reinforce 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. GG305 is a W-Focus course, and your grade will depend heavily on your ability to present results clearly and concisely in written form. Even if you are the best geologist in the world, nobody will care unless you can write about what you have figured out or discovered.

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**

G&G undergraduate courses have to consider how they address a number of SLOs, which the G&G Department has decided are key attributes and/or abilities of any G&G 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.

Kōkua: If you have a disability or 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

THE MOJAVE DESERT TRIP

Each spring break GG305 goes to the Mojave desert so you can get some practice and experience with rocks and structures that are not available in Hawai'i. The typical costs that you will incur are airfare, motel+gas, and food, which typically total about $1200. The rental vehicles are covered by G&G.

You will make, and pay for, your own plane reservations. The lodging+gas+dinners costs are typically in the $300 range. I used to pay these myself during the trip, and asked for reimbursement after. 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) + $400 (lodging+gas+dinners) + $110 (lunch + breakfast) ≈ $1200. Before you complain, note that a real Field Camp, which is required for graduation from any decent Geology program (see below), costs $2000 to $3000!

More Stuff + GG305 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. In all cases late assignments will suffer very severe point reductions, namely, if it isn't turned in on time it won't count.

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 GG305 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 G&G 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***