EART 188B - Field Geology and GIS

2016 Syllabus

Instructor: Noah Finnegam \( (nfinnega@ucsc.edu) \)
EMS A115, 831-459-5110,
Office Hours: Mon 11:00-1:00 PM or by appointment.

TAs:
Allison Pfeiffer \( (ampfeiff@ucsc.edu) \), EMS A243
Alex Nereson \( (anereson@ucsc.edu) \), EMS A142

Spring Quarter Schedule:
Lecture, Monday 2:00-3:00 PM
Lab 1 Wednesday 9 AM -12 PM
Lab 2 Thursday 1-4 PM

Goals
Develop Basic Quantitative Geospatial Skills:
Introduce coordinate systems and projections
Develop familiarity with ArcCatalogue, ArcMap, ArcScene and ArcPad
Do vector interpretations on raster data
Map scale and coordinate system designation, legend generation,
Use DEMs both for interpretation and for quantitative analysis
Landform Analysis; Basic Database operations
Become familiar with Juno and linked Trimble GPS
Work with computer-generated images in field

Regional Geology of Eastern California Shear Zone
Nature of active faulting and how it relates to tectonics
Volcanism in Owens Valley to Mono Lake and how it relates to tectonics
Solve specific problems raised by the image interpretation
Integrate your field observations with the general geologic history

Course Website & Syllabus:
geomorphology.sites.ucsc.edu/teaching/eart188b/

In addition, materials will be posted periodically to a Google drive that I will share with you
Class Schedule
March 28: Class Intro
Lab 1: No Lab

April 4: Why GIS, Data Concepts, Projections and Datums
Lab 2: Creating an Index Map

April 11: Tectonic Architecture of Eastern California
Lab 3: Hilton Creek part I

April 18: Climate History of Eastern California
Lab 4: Hilton Creek part II

April 25: Strike Slip Faults
Lab 5: Poverty Hills part I

May 2: Assign Presentation Groups & Topics, lecture TBD
Lab 6: Poverty Hills part II

May 9: Volcanic History of Eastern California
Lab 7: Panum Crater

May 16: Class Presentations (will require extra time, TBD)
Lab 8: Loading data onto Trimble Juno / Exploring GIS resources online

May 23: Synthesis of Group Presentations
Lab 9: DIY Presentations

May 30: Memorial Day, no class
Lab 10: Get Trimbles Ready for Field

Wednesday, June 15: Mandatory Pre-departure meeting, 2-3:30 PM in EMS D226

Thursday, June 16: Depart for Camp Ferguson

188B Field Schedule
7/8 (Fr) arrive at SNARL by dinnertime (6:00 p.m.). Camp orientation at 8:00 p.m.
7/9 (Sa) Introductory Field Trip to Area
7/10-7/11 (Su-Mo) Hilton Creek Fault
7/12 (Tu) Hilton Creek report due 6:00 PM
7/13-7/15 (We- Fr) Poverty Hills
7/16 (Sa) Poverty Hills map and report due 6:00 PM
7/17 (Su) Panum Crater
7/18 (Mo) Panum Crater report due 6:00 PM
7/21 (Tu) Clean up and leave SNARL by noon.

Grading
Class/Lab Exercises (40%)
Class Presentation: (10%)
Field Exercises (50%)