Earth Sciences 10L: Geologic Principles Laboratory, Winter 2020

Eart10L is an optional (but *recommended*) one-credit addition to Eart10. The laboratory sessions will provide opportunities for hands-on learning, with development of skills in mineral and rock identification, structural geology, plate tectonics, and shallow Earth processes. Eart10 is one of three "gateway" classes to the Earth Sciences major (along with Eart5 and Eart20) – successful completion of the lab section for one of these courses is required for the major, and also is helpful for Earth Sciences minors. Although you can take Eart10 without taking Eart10L, you cannot take Eart10L unless you are currently enrolled in Eart10 or have successfully completed Eart5 or Eart20.

	TA
Teaching assistant:	Genesis Berlanga
E-mail:	gberlang@ucsc.edu
Office hours:	TBD
Location:	

Web site: Canvas
Lab location: D226, Earth and Marine Sciences
Lab times: **T 9:00am–12:00 pm; R 4:00-7:00pm**

Assignments: weekly reading, eight exercises (generally to be completed during lab)
Quizzes: final lab quiz during last lab session
Grades/Evaluations:
Attendance in lab session is mandatory. Exceptions will be granted only under extraordinary circumstances, generally with prior notice. If you miss a lab, you must attend another session during the same week but be sure to inform both TAs. Lab assignments will be distributed in session and handed-in in session (not in lecture) or to the TA's mailbox (located in E&MS A232) prior to next lab. There is *no grace period* for late assignments without prior arrangement. Late assignment scores drop 10% per day and will not be accepted one week past the due date.

Required lab manual: Busch et al., 2014 (10th ed), Laboratory Manual in Physical Geology
Other lab materials (please bring these and the Lab Manual to all sessions):

1. Hand lens (***required*** for mineral and rock identification) – available at Baytree Bookstore (*cheap!*) or online (search for "hand lens mineral" for many options)
2. Drafting supplies: ruler, sharp pencils, protractor, colored pencils, good eraser.
3. Scientific calculator (capable of displaying numbers with ***scientific notation***)

Expectations:

- Come prepared. Look over the assigned material *before* the lab.
- Ask questions! The TA and Instructor are here to help you understand critical concepts.
- Work on the problems in lab. Don't just ask a question or two and leave.
- Work in small groups (2-3) during lab. Participate, don't just watch the group work.

Eart10 Laboratory: Topic and Reading List

Subject to revision as the quarter progresses...

Date	Session topic(s)	Reading/Assignment
Week 1 January 7/9	**No lab meeting this week** *Please complete reading assignment*	Lab manual, Chapter 1
Week 2 January 14/16	1. Mineral identification *Turn in at start of next lab session (but make a copy for use with next lab)*	Lab manual, Chapter 3
Week 3 January 21/23	2. Igneous rock identification *Turn in at start of next lab session*	Lab manual, Chapters 2 (skim), 3, 4 (skim), and 5
Week 4 January 28/30	3. Maps and aerial photographs *Turn in start of next lab session*	Lab manual, Chapter 9
Week 5 February 4/6	4. Sedimentary rock identification *Turn in at start of next lab session*	Lab manual, Chapter 6
Week 6 February 11/13	5. Metamorphic rock identification *Turn in at start of next lab session*	Lab manual, Chapters 7
	6. Field trip on Saturday Feb 15	**8:20 am-3:00 pm**
Week 7 February 18/20	Complete field trip exercise *Turn in at start of next lab session*	
Week 8 February 25/27	**7.** Structural geology, plate tectonics and earthquake	Lab manual, Chapter 10 &16
Week 9 March 3/5	**8.** Hydrologic, glacial, and coastal processes *Turn in at start of next lab session*	Lab manual, Chapters 11, 13, 15
Week 10 March 10/12	**9. Lab quiz**	Review earlier labs (especially rock and mineral ID) and reading