

Earth Sciences 10L: Geologic Principles Laboratory, Winter 2019

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	TA
Teaching assistant:	Amanda Donaldson	Natalie Glines
E-mail (@ucsc.edu):	amdonald	nglines
Office hours:	Mon 12-1, Tue 10-11	DAY X-Y, DAY X-Y
Location:	E&MS TBD	E&MS ZZZ

Other office hours by appointment.

Web site: <http://es.ucsc.edu/~afisher/Courses/Eart10> (same login and password as for class)

Lab times/locations:

10L-1: Wed 4:30-7:30 <i>NOTE: E&MS D250</i>	10L-2: Wed 11:00-2:00 <i>NOTE: E&MS D226</i>
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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 may attend the other session or attempt to make up on your own time: be sure to inform both TAs. Lab assignments will be distributed in session and handed-in in session (not in lecture for Eart10, a separate class) 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., 2015 (10th ed), Laboratory Manual in Physical Geology

NOTE: This is the previous edition and there are used copies on order for Baytree Bookstore or you could secure from an online source.

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 TAs 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 7 Jan – 11 Jan	No lab meeting this week! <i>Please complete reading assignment!</i>	Lab manual, Chapter 1
Week 2 14 Jan – 18 Jan	1. Mineral identification <i>Turn in at start of next lab session (but make a copy for use with next lab)</i>	Lab manual, Chapters 2 (skim), 3
Week 3 21 Jan – 25 Jan	2. Igneous rock identification <i>Turn in at start of next lab session</i>	Lab manual, Chapters 2 (skim), 3, 4 (skim), and 5
Week 4 28 Jan – 1 Feb	3. Maps and aerial photographs <i>Turn in start of next lab session</i>	Lab manual, Chapter 9
Week 5 4 Feb–8 Feb	4. Sedimentary rock identification <i>Turn in at start of next lab session</i>	Lab manual, Chapter 6
11 Feb - Sat	5. Pinnacles/Hollister field trip	8:20 am-5:00 pm
Week 6 11 Feb–15 Feb	Complete field trip exercise (<i>includes plate tectonics and earthquakes</i>) <i>Turn in at start of next lab session</i>	Lab manual, Chapters 2 and 16
18 Feb - Sat	Rain date for Lab 5	8:20 am-5:00 pm
Week 7 18 Feb–22 Feb	6. Metamorphic rock identification and structural geology <i>Turn in at start of next lab session</i>	Lab manual, Chapters 7 and 10
Week 8 25 Feb – 1 Mar	7. Karst and Caves (<i>on campus field trip!</i>) <i>Turn in at start of next lab session</i>	Lab manual, Chapter 12A-B
Week 9 4 Mar – 8 Mar	8. Hydrologic, glacial, and coastal processes <i>Turn in start of next lab session</i>	Lab manual, Chapters 12, 13, 15
Week 10 11 Mar – 15 Mar	9. Lab quiz	Review earlier labs (especially rock and mineral ID) and reading