

FIELD STUDIES OF SOILS IN CALIFORNIA ECOSYSTEMS  
Soil Science 105/205

June 25 – July 16, 2018

Department of Land, Air and Water Resources  
University of California, Davis

The course comprises 18 days of intensive classroom and field study, mostly in the field, away from Davis. Five quarter units. The course is offered through UC Summer Sessions (SSC 105/SSC 205 Special Session). See the web site at:

[http://summer-sessions.ucdavis.edu/courses/field\\_courses.html](http://summer-sessions.ucdavis.edu/courses/field_courses.html)

For SSC 205, an extra written project that focuses on the application of some aspect of the course to a natural resource issue that involves soils is required. Please contact Randy Southard to discuss the scope of the graduate project prior to registration for SSC 205.

Instructor: Randy Southard, [rjsouthard@ucdavis.edu](mailto:rjsouthard@ucdavis.edu), 530-758-2872

Grading: Exam, course summary written report, field exercise, and quizzes. For SSC 105, each accounts for 25% of the grade. For SSC 205, these four assignments, plus the additional written project, each account for 20% of the grade.

Text: Keys to Soil Taxonomy, 12<sup>th</sup> ed., 2014. Download from the NRCS website [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/?cid=nrcs142p2_053580).

Schedule:

<u>DATE</u>	<u>TOPIC OR FIELD LOCATIONS. OVERNIGHT STOP UNDERLINED</u>		
JUNE	25	Monday	9 a.m. – 5 p.m. Meet in PES 2005. Course introduction, logistics. Introduction to soil morphology, classification, genesis, and mineralogy. <u>Davis*</u> .
	26	Tuesday	8 a.m. – 5 p.m. Soil morphology, classification, genesis, and mineralogy continued. Afternoon: Soils on valley fill, Sacramento Valley, Part I. <u>Davis</u>
	27	Wednesday	Soils on valley fill, Sacramento Valley, part II. <u>Davis</u> .
	28	Thursday	Rocks and soils in northern Sierra Nevada foothills. <u>Vine Hill</u> .
	29	Friday	Sierran life zones/climatic transect on soils formed from andesitic materials. <u>Silver Lake</u> .
	30	Saturday	Glacial geomorphology and soils. <u>Tahoma</u> .
JULY	1	Sunday	Desert loess and soil development on remnant lakeshore features of Lake Lahontan (Olinghouse transect). <u>Pyramid Lake</u> .
	2	Monday	Great Basin/Modoc soils. <u>Susanville</u> .
	3	Tuesday	Soils and forest management, Lassen National Forest. <u>Lost Creek, Lassen Volcanic National Park</u> .
	4	Wednesday	Soils, geology and vegetation in Lassen National Park. <u>Lost Creek, Lassen Volcanic National Park</u> .

5	Thursday	Soils on volcanic landscapes, southern Cascades, part I. <u>Day Bench</u> .
6	Friday	Soils and agriculture in the Fall River Valley; soils on volcanic landscapes, southern Cascades, part II, <u>Redding</u> .
7	Saturday	Soils on valley fill, Sacramento Valley, Part III. <u>Red Bluff</u> .
8	Sunday	Coast Range hodge-podge: Coast Range valley fill, serpentinite, and Clear Lake volcanics. <u>Hopland Research and Extension Center</u> .
9	Monday	Hillslope transects and mapping on Franciscan graywacke <u>Hopland Research and Extension Center</u> .
10	Tuesday	Hillslope transects and mapping on Franciscan greywacke continued. <u>Hopland Research and Extension Center</u> .
11	Wednesday	Coastal redwoods and the ecological staircase, Mendocino Coast. <u>Van Damme State Park</u> .
12	Thursday	Ecological staircase. Return to <u>Davis</u> .
16	Monday	Exam 10:00 a.m. – 2:00 p.m.
19	Thursday	Course summary written report due 5 pm.
25	Wednesday	Written project for SSC 205 due 5 pm.

#### SUPPLIES, EQUIPMENT AND COSTS

##### For classroom and field:

- 1 10x hand lens - leather lace for neck lanyard (Bookstore, Target)
- 1 8-1/2 x 11 3-ring binder with notebook paper
- 1 8-1/2 x 11 clip board for field note taking
- 1 Pocket notebook for miscellaneous field notes, pedologic Haiku and rap
- 1 Plastic ruler
- 1 Felt-tip pen (e.g., Flair) with black ink for soil map work
- 1 2-m locking steel measuring tape (Walmart, Target, Davis Lumber)
- 1 Road map/atlas of California (UCD bookstore, Target, WalMart)
- Pencils with erasers, pencil sharpener
- 1 Keys to Soil Taxonomy, 2014, 12th edition, (see above)
- 1 Sturdy knife with sheath or hand trowel for soil excavation (Target, CVS, WalMart, Davis Lumber)
- 1 Calculator

##### Personal

Warm sleeping bag (bring a sheet for those warm nights), ground cloth, small tent (optional), air mattress or foam pad, towels, toilet articles, small first aid kit, sun screen, insect repellent, clothes for field (including **hat**, field boots, warm jacket and rain gear) and classroom (laundromats occasionally available during the trip), and water bottle for drinking water. **Cooking equipment and utensils are provided. No backpacking is required, but some hiking in the field is required.**

**SANDALS AND OPEN-TOED SHOES ARE NOT PERMITTED FOR FIELD WORK.**

Luggage limited to: 1 backpack, suitcase, or duffel bag, 1 day pack, sleeping bag, pad, tent.

##### Estimate of Cost

A course fee of \$300.00, in addition to Summer Session fees, partially covers transportation, lodging, and most meals while in the field.

Books, personal supplies, and other meals while in field are not included.

HEALTH INSURANCE IS NOT INCLUDED IN THE COURSE FEE.

- \* While in Davis, out-of-towners can usually make arrangements to stay with others in the class. Otherwise, make reservations at a local motel (See [http://travel.yahoo.com/p-hotel-474205-davis\\_hotels-j](http://travel.yahoo.com/p-hotel-474205-davis_hotels-j) for more information).

See Summer Session Web Sites:

<http://summer-sessions.ucdavis.edu/fees/index.html>

[http://summer-sessions.ucdavis.edu/courses/field\\_courses.html](http://summer-sessions.ucdavis.edu/courses/field_courses.html)