

# SUBJECT TO REVISION

## FIELD STUDIES OF SOIL RESOURCES Soil Science 105/205 - Southern California

June 22 – July 10, 2009  
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/>

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 Dahlgren to discuss the scope of the graduate project prior to registration for SSC 205.

Instructors: Randy Dahlgren, [radahlgren@ucdavis.edu](mailto:radahlgren@ucdavis.edu), 530-752-2814

Valerie Bullard, [vabullard@ucdavis.edu](mailto:vabullard@ucdavis.edu)

**Grading:** Final exam (30%), Course summary written report (30%), Sierran Transect exercise (10%), quizzes (30%)

**Text:** Keys to Soil Taxonomy, 10<sup>th</sup> ed., 2006. Available by order (free) at <http://landcare.sc.egov.usda.gov/product.asp?ID=459> or for download on line at [http://soils.usda.gov/technical/classification/tax\\_keys/](http://soils.usda.gov/technical/classification/tax_keys/) Schedule

<b>DATE</b>	<b>Topic/Field Location. Overnight stop underlined.</b>
JUNE 22 Monday	9 am – 5 pm. Course introduction & logistics. Introduction to soil morphology, classification, genesis, and land grading systems. Introduction to field kits and soil texturing practice. <u>Davis.</u>
23 Tuesday	8 – 5 p.m. Practice pit. <u>Davis.</u>
24 Wednesday	Drainage catena on Coast Range alluvium, Dixon, Jepson Prairie, <u>Davis.</u>
25 Thursday	Organic soil in Delta, upland soil in Montezuma Hills. Dixon, Rio Vista, <u>Davis.</u>
26 Friday	<b>Day off</b> - Preparation for field excursions, <u>Davis</u>

- 27 Saturday Examine soils, landforms and land use in northeastern San Joaquin Valley on Sierra Nevada alluvium chronosequence, enroute Lodi, Ione, Valley Springs, Oakdale, Turlock Lake State Park.
- 28 Sunday “Sunrise” seminar Turlock Lake. Examine soils, landforms and land use on Sierra Nevada alluvium chronosequence, enroute Snelling, Merced, Madera, Millerton Lake SRA.
- 30 Monday Soil climosequence study on granitic bedrock (Sierran Transect). Examine foothill range and middle mountain forest soils, enroute Auberry, Shaver Lake, Huntington Lake.
- July 1 Tuesday Sierran Transect continued: examine subalpine and mixed conifer forest soils, enroute Kaiser Pass, Huntington Lake, Dinkey Creek, Buck Meadow.
- 2 Wednesday Examine watershed, rangeland and agricultural soils, enroute Balch Camp, Trimmer, Citrus Cove, Lindy’s Landing, Reedley.
- 3 Thursday Examine mima mounds and soils formed on alluvium from basic igneous rock on the eastside of the southern San Joaquin Valley, enroute Visalia, Porterville, Bakersfield, Tehachapi, Red Rock Canyon SRA.
- 4 Friday Examine soils and land use in the Mojave Desert, enroute California City, Mojave, Red Rock Canyon SRA.
- 5 Sunday Examine drainage catena and vegetation transect on Owens Lake beaches/playa. Examine landforms and land use on eastside Sierra Nevada, enroute Lone Pine, Red Rock Canyon SRA.
- 6 Monday Examine soils and land use in the western Mojave Desert (Antelope Valley) and Transverse Ranges, enroute Mojave, Lancaster, Santa Paula, Ojai, McGrath Beach State Park, Ventura.
- 7 Tuesday **Day off.** McGrath Beach State Park, Ventura.
- 8 Wednesday Examine tidal marsh and hillslope soil sequence, enroute Santa Barbara, Santa Ynez Valley, Sedgwick Reserve.
- 9 Thursday Examine coastal dune soils and Coast Range soils and land use, enroute Solvang, San Luis Obispo, Raso Robles, Pinnacles Campground.
- 10 Friday Examine soils and land use on west-side San Joaquin Valley, enroute Panoche, Little Panoche Valley, Los Banos. Return to Davis.
- 13 Monday Exam 8:30-10:30 a.m.
- 15 Wednesday Sierran Transect report and take home exam due by 5 pm (email to [radahlgren@ucdavis.edu](mailto:radahlgren@ucdavis.edu)).
- 17 Friday Course summary written report due 5 pm.

24 Friday

Written project for SSC 205 due 5 pm

## **SUPPLIES, EQUIPMENT AND COSTS**

### For classroom and field:

- 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
- 1 Plastic ruler
- 1 2-m locking steel measuring tape
- 1 Road map/atlas of California (UCD bookstore, gas station)
- 1 10x hand lens - leather lace for neck lanyard
- Pencils with erasers, pencil sharpener
- 1 Keys to Soil Taxonomy, 2006, 10th edition, (see above)
- 1 Sturdy knife with sheath for soil excavation (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.

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

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

### Estimate of Cost

See Summer Session Web Site: <http://summer-sessions.ucdavis.edu/specialprogramscourses.html#SoilScience>

This fee covers transportation, campground/lodging, and community 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 [www.usa-lodging.com/motels/califn/Davis.htm](http://www.usa-lodging.com/motels/califn/Davis.htm) for more information).