

# Soils

## LOWER DIVISION

### **SOIL 260. Introduction to Soil Science** (3).

Soil's physical, chemical, and biological properties. Implications for land management. Identify soil parent materials; use soil survey reports. [Prereq: CHEM 107 or CHEM 109 or IA. Weekly: 2 hrs lect, 3 hrs lab.]

### **SOIL 285 / RRS 285. Wildland Soils Seminar**

(1). Current topics in wildland resources (range & soils) assigned, presented, and discussed. Guest presentations from practicing professionals & scientists. Student oral & written presentations required. [Rep twice.]

## UPPER DIVISION

### **SOIL 360. Origin & Classification of Soils** (3).

Factors of soil genesis; their interactions. Soil morphology/description; classification, emphasizing wildland soils. [Prereq: SOIL 260 or equivalent. Weekly: 2 hrs lect, 3 hrs lab.]

### **SOIL 363. Wetland Soils** (3).

The morphology, chemistry, hydrology, formation and function of mineral and organic soils in wet environments. Topics include identification, estuaries, peatlands, preservation, regulation and mitigation. [Prereq: SOIL 260 or equivalent. Recommended: SOIL 360. Weekly: 2 hrs lect, 3 hrs lab.]

### **SOIL 460. Forest & Range Soils Management**

(3). Soil interpretations for forest, range, and recreational use of wildlands. Soil properties affecting such interpretations. Soil fertility management on wildlands. [Prereq: SOIL 260 or equivalent. Weekly: 2 hrs lect, 3 hrs lab.]

### **SOIL 461. Forest Soils Capstone** (1).

Research a forest soils problem, complete a project, write a report, and give a public presentation. Demonstrate breadth and depth of knowledge, ability to integrate knowledge, adaptability, and critical thinking. [Coreq: SOIL 460.]

### **SOIL 462. Soil Fertility** (3).

Methods of evaluating/managing soil fertility; nutrient availability and cycling in terrestrial ecosystems; soil test methods and interpretation of results. [Prereq: CHEM 107 or CHEM 109, CHEM 110, CHEM 328, SOIL 260; or IA.]. Weekly: 2 hrs lect, 3 hrs lab. Offered alternate years.]

### **SOIL 465. Soil Microbiology** (3).

Interrelationships between soil, microorganisms, and plants, especially in context of wildland soils. Isolate/identify microorganisms. [Prereq: SOIL 260 or equivalent, and BIOL 105. Weekly: 2 hrs lect, 3 hrs lab. Offered alternate years.]

### **SOIL 467. Soil Physics** (3).

State/transport of matter and energy in soil; physical processes governing soil/water energy relationships. [Prereq: SOIL 260 or equivalent, and PHYX 106 or PHYX 109; or IA. Weekly: 2 hrs lect, 3 hrs lab. Offered alternate years.]

### **SOIL 468. Introduction to Agroforestry** (3).

Objectives and socioeconomic contexts. Multi-purpose tree species; soil/tree/crop/livestock interactions; soil conservation; soil fertility effects. [Prereq: BOT 105 and SOIL 260 or equivalent.]

### **SOIL 480. Selected Topics** (1-3).

Lecture as appropriate. [Rep with different topic.]

### **SOIL 485. Senior Seminar** (1-2).

Topics of current interest. Lectures, guest speakers, discussions, and/or student presentations. [Prereq: junior or senior standing or IA. Rep.]

### **SOIL 492. Senior Project** (3).

Individual research which will include fieldwork and completion of a scientific paper. [Prereq: senior standing and IA.]

### **SOIL 499. Directed Study** (1-3).

Individual research/project. [Prereq: IA. Rep.]

## GRADUATE

### **SOIL 580. Advanced Selected Topics** (1-3).

Lecture as appropriate. [Rep with different topic.]

### **SOIL 685. Seminar** (1-2).

Topics of current interest. Lectures, guest speakers, discussions, and/or student presentations. [Prereq: grad standing or IA. Rep.]