

# Northwest Arkansas Community College

(Science and Mathematics Division)

**Discipline Code**

ENSC

**Course Number**

2204

**Course Title**

Introduction to Soil Science

**Catalog Description**

An introductory college level course in soils science that is the basis for several disciplines. The study of chemical, physical, and biological properties of soils including the classification and origin of soils. Three hours lecture and three hours lab weekly.

**Prerequisites**

None. Highly recommended: One semester of university-level chemistry (e.g., CHEM 1103, CHEM 1074, etc.). In addition, students are expected to have a working knowledge of the metric system (SI units).

**Credit Hours**

4 credit hours

**Contact hours**

45 lecture contact hours; 45 lab contact hours

**Load hours**

5 load hours

**Semesters Offered**

Fall

**ACTS Equivalent**

None.

**Grade Mode**

A-F

**Learning Outcomes**

Students completing this course will:

- List issues related to karst topography and sedimentary rock soils, including topsoil loss and water quality concerns related to the rapid growth of any region.
- Describe the function of soils, basic structure, and characteristics of soils and how they are formed.

- Apply the principles learned to comprehend, evaluate, and solve problems of soil management in the environment.

### **General Education Outcomes Supported**

None.

### **Standard Practices**

Topics list

- Function of Soils
- Basic Structure and Characteristics of Soils
- Soil Water Characteristics and Hydrology
- Soil Aeration, Temperature, and Colloids
- Acidity, Alkalinity, and Salinity of Soils
- Organisms and Organic Matter
- Fertility of Soils
- Soil Erosion and Control

### **Learning activities**

- Courses must, at a minimum, cover the core learning outcomes for each topic.
- Laboratory exercises include
  - Soil texture
  - Soil color
  - Redoximorphic Features of soils
  - Ped Features
  - Describing soil profiles
  - Soil Water
  - Liming
  - Reading fertilizer analysis
  - Taking soil samples
  - Web soil survey analysis

### **Assessments**

- Required forms of assessment include written examinations, formal laboratory journal, and demonstration of understanding of the principles presented in lecture. Also, students will be required to demonstrate proficiency in applying core laboratory skills and practices used in the study of soil science.

### **Grading guidelines**

- A minimum of 70% of the grade must be proctored, supervised, or otherwise verified.
- Approximately 25% of the grade must come from lab work since the lab and lecture credits for this course are combined.

**Revision Date January 27, 2022**