

# Soil Properties, Surveys, and Applications

**GEOG 3220**  
**Dr. Scott Lecce**  
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**Fall 2009**  
**Office: A-235, Brewster**  
**Office Hours: As posted, or by appointment**

**Required Text:** Brady and Weil, *Elements of the Nature and Properties of Soils*

**Course Description:** The purpose of this course is to provide a general introduction to soil science for students interested in environmental studies. It is taught from the perspective of a pedologist or soil geomorphologist; in other words, this course does not have a strong biological or agricultural emphasis. Instead, we will concentrate on the description of soil properties in the field, soil formation, soil classification, the geographic distribution of soils, and the use of simple laboratory techniques and soil surveys (maps, data, and descriptions provided by governmental agencies).

**Grades:** Your final grade will be based on your performance on the exams and lab exercises:

Mid-term Exam #1 .....	25%
Mid-term Exam #2 .....	25%
Lab and Field Exercises.....	25%
Final Exam .....	25%

**Exams:** Three exams will be given during the semester, two mid-terms and a final. Each exam will stress the material covered since the previous exam. The first and second mid-terms will be given approximately one-third and two-thirds of the way through the semester. Exact dates will be announced one week prior to each mid-term exam. The final exam is not a cumulative final, and will be taken at the scheduled time during the finals week. Make-ups for exams will be given only for medical emergencies if you notify me **PRIOR** to the scheduled exam time.

**Laboratory Exercises:** We will work on about 7-8 lab exercises during the course of the semester. Sufficient time will be set aside during our regular 3 hour meeting period (Mon. 2-5 p.m.) to complete most of the exercises. The exercises must be turned in on time, usually at the end of class. No exercises will be accepted late and **NO MAKE-UPS** will be allowed.

**Field Trips:** Field trips (2-3, weather permitting), which will be conducted during our regular class period, are a **REQUIRED** part of this course. Be aware that this is a soils course and we will be getting our hands and shoes dirty...so dress appropriately!

## Course Outline and Reading Assignments

Introduction.....	Ch. 1, 2.8
Physical Properties of Soils.....	Ch. 4, 2.9
Factors Influencing Soil Formation .....	Ch. 2.2-2.7, 2.10
Weathering and Soil Mineralogy.....	Ch. 2-2.1, 8-8.5
Soil Chemistry.....	Ch. 8.8-8.9, 9-9.4, 9.6, 9.11, 9.13, 9.20
Soil Taxonomy.....	Ch. 3-3.4
Soil Geography I.....	Ch. 3.8-3.9, 3.15, 3.7, 3.16, 3.11
Soil Geography II.....	Ch. 3.10, 3.14, 3.12-3.13, 3.6, 3.5
Soil Water/Hydrology.....	Ch. 5.6, 5.8, 6-6.3, 6.5-6.12
Soil Surveys .....	Ch. 3.18
Soil Erosion .....	Ch. 15

**Americans with Disabilities Act:** East Carolina University seeks to comply fully with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a disability must be registered with the Department for Disability Support Services located in Slay 138 (252) 737-1016 (Voice/TTY).