

Applied Soil Ecology & Conservation ENV K101

Instructor: Judy Preston

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Class Tuesday and Thursday 1:00 to 2:15

Classroom: B210

Textbook:

1. Brady, N.C. and R.R. Weil. 2010. Elements of the Nature and Properties of Soils, 3rd Edition. Pearson-Prentice Hall publ.
2. Supplementary reading materials

Course Description:

Applied Soils Ecology and Conservation is an introductory soil science course covering the following topics:

- Fundamental principles of soil science and soil characteristics including effects on plant growth and productivity.
- Soil classification, formation, physical and biological properties with emphasis on the ecology of healthy soil ecosystems.
- Soil hydrology, including the behavior of soil water, chemical soil pollution and erosion and sedimentation and its impacts on aquatic systems.
- The understanding and management of soil organic matter, nutrients and fertility as it relates to organic and industrial agriculture.

Course Objectives:

The **objective** of this course is to give you a fundamental knowledge of soil science. If you are a student interested in agricultural, forest, rangeland, wetland, or restored ecosystems, a basic understanding of soils is essential for you. The soil provides an ideal system in which to observe practical applications for basic principles of biology, chemistry, and physics. In turn, these principles can be used to minimize the degradation of soil as one of fundamental resources of our natural environment.

Learning Objectives:

1. Know the basic terms and concepts used for the description, study, and management of soils.
2. Understand soil physical, chemical and biological properties and how these properties influence soil functions.
3. Understand soil functions, relationship with soil properties and classification, and the relationship to land use and management.
4. Appreciate the role of soils and soil management as critical components of environmental systems and improving environmental quality.

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September 4, 2012	In Class Topic	Assignment
TU Aug 28	Introduction to Semester	---
TH Aug 30	Field Exercise: Soil Samples	Outside
TU Sept 4	Introduction to Soils, OLC	Chapter 1
TH Sept 6	NO CLASS	Chapters 2 & 3
TU Sept 11	Formation of Soils from Parent Materials, Soil Classification	Chapter 4
TH Sept 13	NO CLASS	Soil Test Exercise
TU Sept 18	Soil Architecture & Physical Properties	Chapter 7
TH Sept 20	Soil Aeration and Temperature	Soil Topics/ Writing Assignment
	SOIL TOPICS	Quiz review
TU Sept 25	QUIZ 1	Chapter 6
TH Sept 27	Soil Water and the Hydrologic Cycle	Supplemental Reading
TU Oct 2	Wetland Soils	Chapter 8
TH Oct 4	Soil Colloids, pH	Chapter 9
TU Oct 9	Soil Aridity and Salinity	Chapter 10, Supplemental Reading
TH Oct 11	Soil Ecology & Foodweb	Chapter 11
TU Oct 16	Soil Organic Matter	Supplemental Reading
TH Oct 18	Organic Farming & Industrial Agriculture	Chapter 12 Writing Assignment
TU Oct 23	Nutrients and Soil Fertility	Soil Test Exercise
TH Oct 25	Composting	Chapter 13
TU Oct 30	Nutrient Management	Quiz Review
TH Nov 1	QUIZ 2	---
TU Nov 6	Guest Speaker	Writing Assignment
TH Nov 8	SOIL TOPICS	Chapter 14
TU Nov 13	Soil Erosion/nonpoint source pollution	Supplemental Reading
TH Nov 15	Sedimentation & Aquatic Ecosystems	Chapter 15
TU Nov 20	Chemical Pollution/Lawns	---
TH Nov 22	Thanksgiving Break	Holiday
TU Nov 27	Final Project	Final Project
TH Nov 29	Final Project	Final Project
TU Dec 4	Final Project	Final Project
TH Dec 6	Semester Review	Semester review
TU Dec 11	FINAL	---
TH Dec 13	NO CLASS	The end

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EVALUATION AND GRADING

20% - QUIZZES (2)

25% - FINAL EXAM

15% - ASSIGNMENTS

20% - PRESENTATION or PROJECT

20% - ATTENDANCE AND PARTICIPATION

Course Policies

Regular attendance and class participation is expected of each student.

Electronic Devices (cell phones, MP3 players, etc.): These devices must be turned off when entering the room to maintain a respectful class atmosphere. You will be asked to leave if you disregard this requirement.

Late/Missed Work: All assignments are due the following week after it has been assigned unless otherwise specified. After this time the assignment will not be accepted and the student will receive a zero.

Quizzes will be based on lecture, reading material, and supplementary materials. There will be ***no make-up of quizzes*** without prior approval.

Extra credit may be offered as an option.

Add/Drop: The last day to add/drop and obtain partial tuition refund for this course is September 10th, 2012.

Withdrawal: The last day to withdrawal from this course is December 10th, 2012.

Incomplete: An incomplete must be finished within 60 days of the last day of the Fall 2011 Semester.

Academic Conduct: It is expected that each student will turn in only his or her own work. Violations of the Student Code are taken seriously. This includes copying or sharing answering on tests or individual assignments, plagiarism, or having someone other than yourself do your work. Depending on the act, a student could receive an F grade on the test/assignment, an F grade for the course, or could be suspended or expelled.

For Your Knowledge, cheating and plagiarism are defined below:

Cheating is defined as the giving of assistance to another or the receiving of assistance from another person, another examination

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paper, other written material, or any source not explicitly permitted by the instructor, is cheating. Thus, you may not look at another's paper or answers; you may not show your paper or answers to another or leave your paper or answers around for others to look at; and, you may not verbally read or reveal your answers to another. It is also cheating to have access, without the instructor's approval, to examination, quiz, or test questions prior to the administration of the examination, quiz, or test.

Plagiarism is the submission or presentation of ideas or work in any form that are not one's own without appropriate acknowledgement of the source(s). Even with the acknowledgement, close paraphrasing can constitute plagiarism. You may quote the work of others if properly referenced.

Special Needs: Please inform me as soon as possible if you require any accommodations in addition to those provided here.