



Soochow University

GEOG 3030 Introduction to Soil Science

Course Outline

Fall, 2020

The course discusses the soil formation processes. In this course, students will be able to develop the understanding of soil properties, soil formation, the importance of soil and the problems related to soil.

Course Information

Contact Hours: 64 hours

Credits: 3 credits

Instructor: TBA

Course Objectives

Upon successfully completing the course, students will be able to:

1. apply the concepts and methods to measure soil properties
2. explore soil formation processes under different circumstances
3. identify the importance of soil and the issues related to soil and their influences on the society

Textbooks/Materials

1. Nyle C. Brady and Raymond R. Weil. (2019). *Elements of the Nature and Properties of Soils*, 4th editions. Pearson.

2. Daniel Hillel. (1992). *Out of the Earth: Civilization and the Life of the Soil*.
University of California Press.

Attendance Requirements and Academic Integrity

Students are required to attend online or in-person classes on the scheduled time.

Missing classes without permission will lead to decrease in overall grade.

- Missing less than two classes: no penalty.
- Missing more than two classes: 7% will be taken off from the overall grade.

Exams must be taken on the scheduled day. There will be no makeup exam for summer sessions.

Soochow University values academic integrity, respect, fairness, honesty and responsibility. Students must be aware of and comply with Soochow University's Academic Integrity policies. Any cheating, falsification, plagiarism, impersonation or any attempting to commit the above will be reported to the university's administration office. Any academic dishonesty behaviors will be kept on record and students will be punished according to the rules.

Evaluation and Grading

Class Participation	10%
Labs Attendance	40% (5% for each)
Midterm Test	20%
Final Exam	30%
Total: 100%	

Labs are mandatory. Students will need to take the pre-lab training before the 1st

lab and finish the pre-lab quiz. Lab equipment is required. Each laboratory will be 1 hour.

All exams will be held in class and the time of each exam will be limited to 2 hours.

Exams must also be taken at the scheduled time. There will be no make-up exams.

Soochow University's grading scale is shown as the following:

Letter Grade	Score Grade	Grade Point Average
A+	95-100	4.0
A	90-94	4.0
A-	85-89	3.7
B+	80-84	3.3
B	75-79	3.0
B-	72-74	2.7
C+	68-71	2.3
C	65-67	2.0
C-	60-64	1.7
D+	55-59	1.3
D	50-54	1.0
F	< 50	0.0

Course Topics

Week	Lecture	Topics	Dues	%
1	1	Course Introduction and Overview		
	2	The Soils Around Us		

	3	Lab 1 Pre-lab Notice		
2	4	Formation of Soils from Parent Materials		
	5	Soil Classification		
	6	Lab 2		
3	7	Soil Architecture and Physical Properties		
	8	Soil Water: Characteristics and Behavior		
	9	Lab 3		
4	10	Soil and the Hydrologic Cycle		
	11	Soil Aeration and Temperature		
	12	Lab 4		
5	13	National Day Holiday, No Classes National Day Holiday, No Lab		
	16	The Colloidal Fraction: Seat of Soil Chemical and Physical Activity		
	17	Soil Acidity, Alkalinity, Salinity and Sodcity		
	18	Lab 5		
6	19	Organisms and Ecology of the Soil		
	20	Soil Organic Matter		
	21	Lab 6		
7	22	Nutrient Cycles and Soil Fertility		
	23	Practical Nutrient Management		
	24	Lab 7		
8	25	Soil Erosion and Its Control		
	26	Soils and Chemical Pollution		
	27	Lab 8		
9	28		Midterm Test	20
	29	The Lessons of the Past The Problems of the Present		
10	28	Early Farming in the Near East		
	29	Silt and Salt in Mesopotamia		
11	28	The Gift of the Nile		

	29	Husbandry of the Rainfed Upland		
12	28	The Desert Rejoiced		
	29	Farming the Wetlands of Mesoamerica		
13	28	Saline Seeps in Australia and North America		
	29	The Sorrow of China		
14	28	The Plight of Africa		
	29	Water Management in Israel		
15	28	A Global Accounting		
	29		Final Exam	30