

COURSE SYLLABUS

CNET 3460 Soils and Foundations

COURSE INFORMATION

Credit Hours: 3

Term: Spring 2019

Time: Lecture: (M-W) 8:30 am – 9:20 am.

Lab: W 11:30 am to 2:20 pm.

R 1:00 am to 3:50 pm.

Classroom: NTDP B155 (Lab: NTDP D155)

INSTRUCTOR INFORMATION

Name: Dr. Saman Rashidyan

Office: Discovery Park F115V

Office Hours: M 9:30 am-12:30 pm or by appointment

Phone: (940) 369-5263

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COURSE DESCRIPTION

This course studies the properties of subsurface materials and the principles of subsurface construction. Topics include soil classification and testing, soil mechanics, and foundation systems.

COURSE OBJECTIVES

By the end of the course, you will be able to:

1. Understand the importance of soils in construction and foundations.
2. Understand how to identify different soil types and properties.
3. Understand the soil reports as they apply to construction.
4. Understand ASTM soil testing methods.
5. Understand the concepts of soil compaction and excavation.
6. Understand the importance of moisture content in soil strength.

STUDENT LEARNING OUTCOMES (ABET)

Applying fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering (#3).

MATERIALS

Required Textbook

1. Fundamentals of Geotechnical Engineering (5th Edition) By: Braja Das, Cengage Learning. Course outline is based on this textbook.
2. Soil Mechanics, Lab Manual (2nd Edition) By: Michael Kalinski, John Wiley & Sons, Inc.

TENTATIVE COURSE OUTLINE

The course outline may be subjected to modifications with notice.

Week	Topic	Book Chapter
1	Introduction, Grain-size distribution	2
2	Weight-volume relationships	3
3	Plasticity	3
4	Soil classification	4
5	Soil compaction	5
6	Hydraulic conductivity	6
7	Review, Exam #1 (February 27)	
8	Stresses in a soil mass	8
9	Spring Break	
10	Consolidation	9
11	Consolidation	9
12	Shear strength of soil	10
13	Lateral earth pressure	14
14	Review, Exam #2 (April 17)	
15	Retaining walls	15
16	Shallow foundations-Bearing capacity	16
17	Final Exam (May 6)	

Lab tests:

1. Sieve Analysis.
2. Moisture Content Test.
3. Atterberg Limits Test.
4. Soil Classification.
5. Compaction (Proctor Test).
6. Sand Cone Test.
7. Permeability Test.
8. Compression Stress Test.
9. Consolidation Test.

COURSE REQUIREMENTS

Exams

Exams will be based on text book, handouts, class exercises, homework, class lectures and discussions. Students are responsible for all text material, regardless of whether we review the text material in class or not.

Missed Exams: You will be allowed to make up missed exams only if you have a documented university excused absence. Make-up exams may not be the same as the original.

Homework

Homework is due one week, unless otherwise noted. Please fold your homework, put your name on it and place it on instructor's desk before class begins.

Late Homework: You are allowed to turn in only ONE late homework. The late homework will not be accepted if it is submitted after one week.

Lab reports

Policies will be announced by the TA.

GRADING

Attendance and class participation	5
Lab reports	20
Homework	10
Exam #1	20
Exam #2	20
Final Exam	25
Total	100

GRADE DISTRIBUTION

90 – 100 and higher	A
80-89	B
70-79	C
60-69	D
Below 60	F

DISABILITIES ACCOMMODATION

Any accommodations for differing abilities will be made for this course as per the policies and determination of the Office of Disability Accommodation: <http://disability.unt.edu/>

ADDITIONAL POLICIES

- Please turn off your cell phones prior to class.
- Using cell phones and personal computers are not allowed during exams.