

# COURSE SYLLABUS

## CNET 3460/3465 – Soils and Foundations

### COURSE INFORMATION

**Credit Hours:** 3 (2;3)

**Term:** Spring 2026

**Time:** Lecture MW 11:30 am – 12:20 pm. NTDP F175

Lab: (Sec. 107) M 1:00 pm to 3:50 pm. NTDP D155

(Sec. 101) W 1:00 pm to 3:50 pm. NTDP D155

(Sec. 108) TR 1:00 pm to 3:50 pm. NTDP D155

### INSTRUCTOR INFORMATION

**Name:** Saman Rashidyan, Ph.D., P.E.

**Office:** Discovery Park F101J

**Office Hours:** MW 2:30 pm-3:30 pm or by appointment

**Phone:** (940) 369-5263

**Email:** [Saman.Rashidyan@unt.edu](mailto:Saman.Rashidyan@unt.edu)

### COMMUNICATION EXPECTATIONS

- You can communicate with your instructor via email ([Saman.Rashidyan@unt.edu](mailto:Saman.Rashidyan@unt.edu)) any time. Emails will be answered within 48 hours. Please **DO NOT** communicate with your instructor in Canvas.
- Homework, grades, PowerPoint files and announcements will be posted on Canvas.

### 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)**

SO1: an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline

SO4: an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.

## **MATERIALS**

### ***Required Textbook***

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

## **MINIMUM TECHNOLOGY REQUIREMENTS**

- Computer
- Reliable internet access
- [Canvas Technical Requirements](https://clear.unt.edu/supported-technologies/canvas/requirements) (https://clear.unt.edu/supported-technologies/canvas/requirements)

## **COMPUTER SKILLS & DIGITAL LITERACY**

- Using Canvas
- Using email with attachments

## **TECHNICAL ASSISTANCE**

Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues. UIT Help Desk: [UIT Student Help Desk site](http://www.unt.edu/helpdesk/index.htm) (http://www.unt.edu/helpdesk/index.htm)

Email: [helpdesk@unt.edu](mailto:helpdesk@unt.edu) , Phone: 940-565-2324

## **COURSE EVALUATION**

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course. Please don't forget to submit the course evaluation when the link is sent to you in April.

## TENTATIVE COURSE OUTLINE

The course outline may be subjected to modifications.

<b>Week</b>	<b>Topic</b>	<b>Book Chapter</b>
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	Stresses in a soil mass	8
8	Stresses in a soil mass, <b>Exam #1 (March 4)</b>	8
9	<b>Spring Break (March 9-15)</b>	
10	Consolidation	9
11	Consolidation	9
12	Shear strength of soil	10
13	Lateral earth pressure, <b>Exam #2 (April 8)</b>	
14	Lateral earth pressure	14
15	Retaining walls	15
16	Shallow foundations-Bearing capacity	16
17	<b>Final Exam: Monday May 4, 10:00 a.m. – 12:00 p.m.</b>	

### **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. Consolidation Test.
9. Direct Shear Test
10. Triaxial Test.

## COURSE REQUIREMENTS

### **Exams**

Exams will be based on the textbook, 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. Only the print textbook, class presentations (hard copies) and personal notes can be used in the exams. No cellphone/laptop is allowed.

*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 & in-class assignment***

Homework is due one week, unless otherwise noted. Late Homework: You are NOT allowed to turn in late homework. Each in-class assignment is worth 50% of a homework.

### ***Lab reports***

Policies will be announced by the Teaching Assistant (TA). There will be a 5% deduction from the total course grade for each unexcused lab absence. If lab absences exceed two, the course will be dropped.

### **GRADING**

Attendance and class participation	5
Lab reports	25
Homework and in-class assignments	15
Exam #1	15
Exam #2	15
Final Exam	25
<b>Total</b>	<b>100</b>

### **GRADE DISTRIBUTION**

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

### **RULES OF ENGAGEMENT**

Rules of engagement refer to the way students are expected to interact with each other and with their instructors. Here are some general guidelines:

- While the freedom to express yourself is a fundamental human right, any communication that utilizes cruel and derogatory language on the basis of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law will not be tolerated.
- Treat your instructor and classmates with respect in any communication online or face-to-face, even when their opinion differs from your own.
- Ask for and use the correct name and pronouns for your instructor and classmates.
- Speak from personal experiences. Use “I” statements to share thoughts and feelings. Try not to speak on behalf of groups or other individual’s experiences.
- Use your critical thinking skills to challenge other people’s ideas, instead of attacking individuals.

- Avoid using all caps while communicating digitally. This may be interpreted as “YELLING!”
- Be cautious when using humor or sarcasm in emails or discussion posts as tone can be difficult to interpret digitally.
- Avoid using “text-talk” unless explicitly permitted by your instructor.
- Proofread and fact-check your sources.
- Keep in mind that online posts can be permanent, so think first before you type.

See these [Engagement Guidelines](#) for more information.