CE 463 FOUNDATION ENGINEERING II
Design Elective - (3+0) 3 Credits
Spring 2024-2025

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Lectures: Class will take place on Friday at **09:45-12:30**

Guidelines for class:

- **https://cloud-lms.iyte.edu.tr** will be our communication and collaboration tool. All announcements and course material will be uploaded on this site.
- Classes will be offered to you at lecture room CZ12 at scheduled teaching date and time. You have to present in the physical classroom.
- At least **7-weeks** attendance to the lectures (face to face) is mandatory.
- **Lecture notes** and **Assignments** will be uploaded to **https://cloud-lms.iyte.edu.tr** according to the progress of the lectures.

Textbook: Principles of Foundation Engineering, Braja M. Das
Foundation Design, Wayne C. Teng
Pile Desing and Construction Practice, Michael Towlinson, John Woodward

Aims and objectives of the course:
- To suggest a type of deep foundation suitable for a given site
- An ability to design piles
- An ability to design a drilled shaft foundations
- An ability to design sheet pile walls
- An ability to design braced cut
- An ability to design soldier pile lagging excavation support wall with anchors

Prerequisite: CE362 Foundation Engineering I

Lectures and reading assignments:

The topics to be covered are listed below:

Part 1 – Review `Foundation Engineering I` and Introduction

Part 2 – Pile Foundations
- Types and methods of construction
- Estimation of pile capacity
- Bearing capacity and settlement of group piles
- Tension piles
- Laterally loaded piles

Part 3 – Drilled Shaft Foundations

- Types of drilled shafts
- Construction methods
- Bearing capacity of drilled shafts
- Settlement of drilled shafts

Part 4 – Sheet Pile Walls

- Types of sheet piles
- Construction methods
- Cantilever sheet pile wall design
- Anchored sheet pile wall design

Part 5 – Braced cuts

- Types of braced cuts
- Braced cut design

Part 6 – Soldier pile lagging excavation support wall with anchors

Grading Policy: Notes on marking and assessments:

Assignments: Students will be given take home assignments and required to make submissions individually except for the team-based project assignment, in which assessment will be based on a submission of a report and a presentation per team. Any assignment that is not received by the specified deadline will be assigned a zero mark. The marks for the course will be allocated as follows.

Term projects and presentations (30)
Midterm Exam (35 pts)
Final Exam (35pts)

How to pass and do well in the course:

1. Ask questions.
2. Take good notes and understand what you wrote.
3. Before you attempt to solve your homework problems, read the appropriate chapter from the book as well as the class notes and try to understand (concept) solved problems.
4. Do **all** the homework on time.
5. Get help if you needed.
6. Prepare for each test beginning at least a week before the exam.

Cheating or copying:
If a student is found guilty of copying homework or cheating in tests, he or she will receive "FF" grade for the course.

Wishing all of us an enjoyable and healthy Semester!