



**ISTANBUL TECHNICAL UNIVERSITY**  
**DEPARTMENT OF CIVIL ENGINEERING**

**INS 332E**  
**FOUNDATION ENGINEERING I**  
**SPRING 2016-2017**

**Catalog Description:** *Site investigation and in-situ soil tests, Slope Stability, Retaining Structures, Shallow foundations, Deep foundations, Soil Improvement.*

**Prerequisites:** INS331 MIN DD or INS331E MIN DD

**Expected computer skills:** Access to the web, Use of Ninova, word/data processing (MS Excel and Word)

**Text and Other Required Materials:**

1. *Lecture Notes for INS332E*
2. *Principles of Foundation Engineering, by Braja M. Das, SI Edition 7th Edition, Cengage Learning, 2010. (62.00 TL Pandora Kitabevi, İstiklal cad., Büyükparmakkapı sk. 8 Beyoğlu)*
3. *Introduction to Geotechnical Engineering, by Robert D. Holtz, William D. Kovacs, Thomas C. Sheahan, 2nd Edition, Prentice Hall, 2010.*
4. *Principles of Geotechnical Engineering, by Braja M. Das, 6th Edition, Thomson Publishing, 2007.*

**Website:** refer to the Ninova website for this course

**Instructors:** Assist. Prof. E. Ece Bayat, Office 264, email: [ebayat@itu.edu.tr](mailto:ebayat@itu.edu.tr)  
Dr. Aslı Yalçın Dayıoğlu, Office: 259, email: [yalcinas@itu.edu.tr](mailto:yalcinas@itu.edu.tr)

**Class Hours:** Tuesdays 09:30-12:30 Classroom D202

**Office hours:**

Monday	Tuesday	Wednesday	Thursday	Friday
13:00-16:30			09:00-12:00	

➤ also by e-mail

**Teaching Assistant for Problem Sessions:**

Dr. Aslı Yalçın Dayıoğlu, Office:259, email: [yalcinas@itu.edu.tr](mailto:yalcinas@itu.edu.tr)

**Office Hours:**

Monday	Tuesday	Wednesday	Thursday	Friday
		13:30-16:30	13:30-16:30	

**Teaching Assistant for Project:**

Araş. Gör. Ozan Alver, Office:260, email: alver16@itu.edu.tr

**Office Hours: will be announced**

Monday	Tuesday	Wednesday	Thursday	Friday

**TOPICS COVERED**

1. Site Investigation and in-situ soil tests
2. Slope Stability
3. Earth Pressures and Retaining Structures
4. Bearing Capacity and Shallow Foundations
5. Deep Foundations
6. Soil Improvement

**RECITATION-PROBLEM SESSIONS (PS)**

Problem sessions will be held at the end of the classes.

**COURSE SCHEDULE**

Week	TOPICS	Date	Reading Assignment	HW-PS
1	Introduction to Geotechnical Engineering	07 /02	Ref.3	
2	Site Investigation and In-situ Soil Tests	14 /02	Ref. 2 74-132	
3	Site Investigation and In-situ Soil Tests	21 /02		HW1, Term Project PS-1
4	Slope Stability	28 /02	Ref. 4 309-355	
5	Slope Stability	07 /03		HW 2-PS 2
6	<b>Midterm 1</b>	14 /03		
7	Earth Pressures and Retaining Structures	21 /03	Ref. 2 324-374	Project Report 1 due
8	Spring Break	28/ 03		
9	Earth Pressures and Retaining Structures	04 /04	Ref. 2 375-534	PS-3
10	Bearing Capacity and Shallow Foundations	11/ 04	Ref. 2 133-180	
11	Bearing Capacity and Shallow Foundations	18 /04	Ref. 2 181-323	PS-4
12	<b>Midterm 2</b>	25 /04		
13	Deep Foundations	02 /05	Ref. 2 535-636	
14	Deep Foundations	09/05	Ref.2 636-684,	PS-5
15	Soil Improvement	16/05	Ref. 2 723-782	Project Report 2 due

**COURSE OBJECTIVES**

1. To give students understanding and problem-solving ability in the topics listed above.
2. To help students understand the scientific foundation for field tests in geotechnical engineering and do site investigation based on the test results.
3. To give students fundamentals of the main topics in foundation engineering.

**GRADING**

<b>Class Performance Evaluation</b>	<b>Quantity</b>	<b>Contribution to the Overall Grade (%)</b>
Homework	2	5
Midterms	2	30
Term Project	1	25
Final Exam	1	40

Late homework and project are not accepted.

**COURSE POLICIES**

- University policies on neatness and academic honesty will be adhered to.
- The instructor will start and end class as scheduled.
- It is expected that those in the class will respect one another and contribute to a constructive learning environment.