



**HASAN KALYONCU UNIVERSITY**  
**Faculty of Engineering**  
**Course Description Form**

<b>COURSE:</b> Foundation Engineering					
<b>CODE:</b> CE461		<b>SEMESTER:</b> FALL			
<b>LANGUAGE:</b> ENGLISH		<b>TYPE:</b> COMPULSORY			
<b>PRE-REQUISITES: -</b>		<b>THEORY</b>	<b>PRACTICAL</b>	<b>CREDIT</b>	<b>ECTS</b>
<b>CO-REQUISITES: -</b>					
<b>WEEKLY HOURS: 3</b>		3	0	3	5

**CONTENT OF THE COURSE:**

Stress distributions beneath foundations, settlement and bearing capacity concepts for shallow foundations, design of shallow foundation and retaining structures.

**OBJECTIVE OF THE COURSE:**

To enable students to design shallow foundations and retaining structures at basic level.

**WEEKLY SCHEDULE AND PRE-STUDY PAGES**

<b>Week</b>	<b>Topics</b>
1	Introduction to foundation engineering
2	Stress distributions under shallow footings-elastic methods
3	Stress distributions under shallow footings-elastic methods
4	Elastic settlement under shallow footings
5	Consolidation settlement under shallow footings
6	Bearing capacity for shallow footings
7	Bearing capacity for shallow footings
8	Midterm Week
9	Base reactions under shallow footings
10	Base reactions under shallow footings
11	Subgrade modulus concept-Winkler Model
12	Types and behavior of retaining structures
13	Design principles of retaining structures
14	Design principles of retaining structures

**TEXTBOOK:**

- Principals of Foundation Engineering (Braja M. Das)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
<b>LO1</b>	1	1	1	0	0	0	0	0	0	0	0
<b>LO2</b>	3	3	1	0	0	0	0	0	0	0	0
<b>LO3</b>	2	3	2	0	0	0	0	0	0	0	0
<b>LO4</b>	2	3	3	0	0	0	0	0	0	0	0
<b>LO5</b>	2	3	3	0	0	0	0	0	0	0	0
PO: Program Outcomes   LO: Learning Outcomes Values: 0: None   1: Low   2: Medium   3: High											

<b>INSTRUCTOR(S):</b>	Asst. Prof. Dr. Volkan Kalpakçı
<b>FORM PREPARATION DATE:</b>	22.05.2019

<b>LEARNING OUTCOMES OF THE COURSE:</b>
<p><b>LO1:</b> Shallow foundation types.  <b>LO2:</b> Foundation behavior under loading.  <b>LO3:</b> Calculation of total and differential settlement of foundations.  <b>LO4:</b> Bearing capacity calculation.  <b>LO5:</b> Design of retaining structures.</p>

<b>CONTRIBUTION OF THE COURSE TO VOCATIONAL EDUCATION</b>
With the theoretical knowledge and sample applications obtained from this course, the student learns the design principles, basic types and burdens of these foundations, also learns the design principles and design of different retaining structures.