



COURSE INFORMATION FORM

Course Name	Course Code
FOUNDATION ENGINEERING	151417644

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
7	3	0	5

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
	2	3		

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

Prerequisite(s) if any	Soil Mechanics II
Objectives of the Course	The main purpose of the course is to give concepts related to shallow and deep foundation systems and the main analysis methods used in geotechnical design based on soil mechanics knowledge.
Short Course Content	The foundation design course is based on the behavior of building foundations under vertical loads, the geotechnical design of these structures, and the methods used in design. Course content; Subsoil exploration, field test methods, shallow foundations: bearing capacity of shallow foundations, settlement in shallow foundations, deep foundations, bearing capacity of deep foundations, settlements in deep foundations, and problematic soils.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 To be able to know the fundamentals of civil engineering in terminological and professional terms.	1, 2, 5	1, 2	A, K
2 Ability to analyze, interpret and evaluate the interaction between the foundation system and the soil.	1, 2, 5	1, 2, 10	A, K
3 Ability to design foundations from a geotechnical perspective in different soil types.	1, 2, 5, 8	1, 2, 10	A, K
4 The ability to recommend the type of foundation by knowing the concept of problematic ground and the problems it will create.	1, 2, 5	1, 2, 5, 10	A, K
5 -			
6 -			
7 -			
8 -			

*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

Main Textbook	In general, books on soil mechanics and foundation design are within the scope of this course.
Supporting References	<ol style="list-style-type: none"> 1. Foundation Analysis and Design, J. Bowles 2. Principles of Foundation Engineering, B. Das 3. Yüzeysel Temeller, A. Birand 4. Kazıklı Temeller, A. Birand 5. Kazıklı Temeller, E. Toğrol
Necessary Course Material	Data show machine.

Course Schedule	
1	Principles of foundation design
2	Subsoil Exploration
3	Subsoil Exploration
4	Foundation types, Shallow foundation design
5	Bearing capacity of shallow foundations
6	Bearing capacity of shallow foundations
7	Settlement on shallow foundations
8	Mid-Term Exam
9	Mat foundation
10	Types of deep foundations
11	Bearing capacity of deep foundations
12	Settlement on deep foundations
13	Bearing capacity of group piles
14	Settlement on group piles
15	Problematic soils
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,...)	14	5	70
Homework	-	-	-
Quiz Exam	-	-	-
Studying for Quiz Exam	-	-	-
Oral exam	-	-	-
Studying for Oral Exam	-	-	-
Report (Preparation and presentation time included)	-	-	-
Project (Preparation and presentation time included)	-	-	-
Presentation (Preparation time included)	-	-	-
Mid-Term Exam	1	2	2
Studying for Mid-Term Exam	1	15	15
Final Exam	1	2	2
Studying for Final Exam	1	15	15
Total workload			146
Total workload / 30			4.87
Course ECTS Credit			5

Evaluation	
Activity Type	%
Mid-term	40
Final Exam	60
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering problems.	5
2	Ability to determine, define, formulate and solve complex engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.	5
3	Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	2
4	Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies.	2
5	In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	4
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	1
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	1
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.	3
9	Understanding of professional and ethical issues and taking responsibility	3
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	1
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.	1

LECTUTER(S)				
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Signature(s)				

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