<table>
<tr><th colspan="2">COURSE DESCRIPTION FORM</th></tr>
<tr><td>Course Code and Title</td><td>CE461 FOUNDATION ENGINEERING I</td></tr>
<tr><td>Semester</td><td>7</td></tr>
<tr><td>Catalog description</td><td>Introduction. Site investigation, drilling and sampling methods, field tests, foundation loads, settlement and differential settlement limits, soil-foundation-superstructure interaction, shallow foundation types, excavation types, excavation methods, design of earth retaining structures</td></tr>
<tr><td>Required reading</td><td>Temel Tasarımı İlkeler Ve Uygulamalar - Donald P. Coduto, Çeviri: Murat Mollamahmutoğlu, Kamil Kayabalı,</td></tr>
<tr><td>Recommended reading</td><td>Zemin İncelemesi ve Temel Tasarımı, Sönmez Yıldırım,

Geoteknik Bilgisi 2 Yamaç ve Şev'lerin Mühendisliği Akın Önalp, Ersin Arel

Geoteknik Bilgisi 3 Bina Temelleri, Akın Önalp, Sedat Sert</td></tr>
<tr><td>ECTS</td><td>4</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Prerequisite courses: CE364 SOIL MECHANICS II
Required attendance to lectures is at least 70%</td></tr>
<tr><td>Compulsory/Elective</td><td>Compulsory</td></tr>
<tr><td>Language of instruction</td><td>English</td></tr>
<tr><td>Aim of course</td><td>Providing knowledge and skills in site investigation techniques and design retaining structures and shallow foundations.</td></tr>
<tr><td>Learning outcomes of the course unit</td><td>1. Know the field experiments,
2. Know site investigation,
3. Design earth retaining structures,
4. Design shallow foundations</td></tr>
<tr><td>Mode of delivery</td><td>The mode of delivery of this course is face to face.</td></tr>
<tr><td>Course content</td><td>1. Necessity and extend of Soil Investigation.
2. Soil Investigation and Sampling Methods.
3. Field tests.
4. Field tests.
5. Lateral earth pressure and supported excavations.
6. Lateral earth pressure and supported excavations.
7. Midtrem
8. Design of Rigid Retaining Wall.
9. Design of Flexible Retaining Wall.
10. Design of Flexible Retaining Wall.
11. Midterm / Project, HWs, Quizes
12. Design of Reinforced Earth Walls
13. Design of shallow foundations (Bearing Capacity)
14. Design of shallow foundations (Settlement)
15. Design of shallow foundations (Settlement)</td></tr>
<tr><td>Planned learning activities and teaching methods</td><td>3 lecture hours per week (3+0)
Web search and library work
Quizzes
Reading
Midterm exams
Final exam</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th></th><th>Quantity</th><th>Percentage (%)</th></tr>
<tr><td>Mid-terms</td><td>2</td><td>50</td></tr>
<tr><td>Assignment</td><td>-</td><td>-</td></tr>
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	Exercises	-	-
	Projects	-	-
	Practice	-	-
	Quiz	2	10
	Contribution of In-term Studies to Overall Grade %		60
	Contribution of Final Examination to Overall Grade (%)		40
	Attendance		

Workload

Efficiency	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
Theoretical Study Hours of Course Per Week	14	3	42
Practicing Hours of Course Per Week	0	3	0
Reading	14	1	14
Searching in Internet and Library	14	1	14
Designing and Applying Materials	0	0	0
Preparing Reports	0	0	0
Preparing Presentation	0	0	0
Presentation	0	0	0
Mid-Term and Studying for Mid-Term	4	7	28
Final and Studying for Final	1	5	5
Other	0	0	0
Total Workload:			103
Total Workload / 25:			4.16
ECTS:			4

Course's contribution to program

No	Program Learning Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.					X
2	Ability to identify, formulate, and solve complex civil engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.					X
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.	X				
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in civil engineering practice; ability to employ information technologies and to use at least	X				

	one computer programming language effectively.						
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex civil engineering problems or discipline specific research questions.	X					
6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams.				X		
7	Ability to work individually.					X	
8	Ability to communicate effectively in Turkish, both orally and in writing; ability to write effective reports and comprehend written reports.	X					
9	Knowledge of English of B1 level according to Common European Framework of Reference.			X			
10	Prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.		X				
11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.				X		
12	Consciousness to behave according to ethical principles and professional and ethical responsibility.				X		
13	Knowledge on standards used in civil engineering practice.					X	
14	Knowledge about business life practices such as project management, risk management, and change management.	X					
15	Awareness in entrepreneurship, innovation; knowledge about sustainable development.	X					
16	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering.				X		
17	Awareness of the legal consequences of engineering solutions.					X	

Name of lecturer(s) and contact information	Prof. Dr. Yüksel YILMAZ; http://websitem.gazi.edu.tr/site/yyuksel Prof. Dr. Sami Oğuzhan AKBAŞ; http://websitem.gazi.edu.tr/site/soakbas Doç. Dr. Ayhan GÜRBÜZ; http://www.websitem.gazi.edu.tr/site/agurbuz Dr. Erhan TEKİN, http://www.websitem.gazi.edu.tr/site/etekin