

COURSE DESCRIPTION FORM			
<b>Course Code and Title</b>	CE388 REINFORCED CONCRETE I		
<b>Semester</b>	6		
<b>Catalog description</b>	Introduction, Material Behavior, Fundamentals, Structural Safety, Axially Loaded Members, Bending Members,		
<b>Required reading</b>	Reinforced Concrete/Fundamentals / Uğur Ersoy-Güney Özcebe.		
<b>Recommended reading</b>	McGregor "Reinforced Concrete Structures" Prentice Hall, 1997. W.H.Mosley, J.H.Bungey "Reinforced Concrete Design" McMillan Ed.Hd. 1991.		
<b>ECTS</b>	5		
<b>Prerequisites and co-requisites</b>	Prerequisite of this course is: <b>CE226 STRENGTH OF MATERIALS I</b> Required attendance to lectures is at least 70%		
<b>Compulsory/Elective</b>	Compulsory		
<b>Language of instruction</b>	English		
<b>Aim of course</b>	To give the basic principles of reinforced concrete.		
<b>Learning outcomes of the course unit</b>	<ol style="list-style-type: none"> <li>1. To learn the fundamentals of reinforced concrete</li> <li>2. To understand the behavior of reinforced concrete members</li> <li>3. To learn the codes</li> <li>4. To be able to calculate the reinforced concrete sections</li> <li>5. To be able to draw interaction diagram for columns</li> </ol>		
<b>Mode of delivery</b>	The mode of delivery of this course is face to face.		
<b>Course content</b>	<ol style="list-style-type: none"> <li>1. Introduction, Materials</li> <li>2. Structural Safety, Load And Material Coefficients. Live Load Arrangements</li> <li>3. Ultimate Strength Assumption</li> <li>4. Concentric Loaded Members</li> <li>5. Compatibility In Concrete</li> <li>6. Failure Types Of RC Members</li> <li>7. Ultimate Strength Design Of RC Beams</li> <li>8. Midterm</li> <li>9. Design Of RC Beams</li> <li>10. Ultimate Strength Design Of RC Columns</li> <li>11. Design Of RC Columns</li> <li>12. Multiaxial Bending In RC Columns</li> <li>13. Midterm / Shear Behavior of RC Members</li> <li>14. Shear Behavior of RC Members</li> <li>15. Design of RC Members for Shear</li> </ol>		
<b>Planned learning activities and teaching methods</b>	3 lecture hours per week (3+0) Preparing Reports Midterm exam and required works Final exam and required works		
<b>Assessment methods and criteria</b>		Quantity	Percentage (%)
	Mid-terms	2	60
	Assignment	-	-
	Exercises	-	-
	Projects	-	-
	Practice	-	-
	Quiz		
Contribution of In-term Studies to Overall Grade %			60

	Contribution of Final Examination to Overall Grade (%)		40				
	Attendance						
<b>Workload</b>	<b>Efficiency</b>	<b>Total Week Count</b>	<b>Weekly Duration (in hour)</b>	<b>Total Workload in Semester</b>			
	Theoretical Study Hours of Course Per Week	14	3	42			
	Practicing Hours of Course Per Week	14	0	0			
	Reading	14	0	0			
	Searching in Internet and Library	14	1	14			
	Designing and Applying Materials	14	0	0			
	Preparing Reports	14	2	28			
	Preparing Presentation	14	0	0			
	Presentation	14	0	0			
	Mid-Term and Studying for Mid-Term	2	15	30			
	Final and Studying for Final	1	10	10			
	Other	0	0	0			
	Total Workload:			124			
	Total Workload / 25:			4.96			
	ECTS:			5			
<b>Course's contribution to program</b>	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 one computer programming language effectively.	X				
	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	X				

		write effective reports and comprehend written reports.						
	9	Knowledge of English of B1 level according to <u>Common European Framework of Reference</u> .		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					
<b>Name of lecturer(s) and contact information</b>	Assoc.Prof. Dr. Sabahattin AYKAÇ, <a href="mailto:saykac@gazi.edu.tr">saykac@gazi.edu.tr</a> Öğr. Gör. Dr. Çağatay M. BELGİN, <a href="mailto:cmbelgin@gazi.edu.tr">cmbelgin@gazi.edu.tr</a>							