

## COURSE DESCRIPTION FORM

<b>Course Code and Title</b>	CE429 SPECIAL TOPICS (STRUCTURE)
<b>Semester</b>	7
<b>Catalog description</b>	Loads, Design Steps, Floors, Structural System Regulation Principles, Columns, Beams, Retaining Walls, Plates, High Rise Buildings.
<b>Required reading</b>	Aka, I. ve Altan, M. "BETONARME TAŞIYICI SİSTEMLER", İstanbul Teknik Üniversitesi İnşaat Fakültesi Matbaası, İstanbul 1992, 134 Pages.
<b>Recommended reading</b>	Aka, İ., Keskinel, F. ve Arda, T.S. "BETONARME YAPI ELEMANLARI", Birsen Yayınevi, İstanbul 1973
<b>ECTS</b>	4
<b>Prerequisites and co-requisites</b>	No prerequisite. Required attendance to lectures is at least 70% of total term hours.
<b>Compulsory/Elective</b>	Technical elective course
<b>Language of instruction</b>	English
<b>Aim of course</b>	To provide information and awareness to students about loads, design phases, load bearing system regulation principles and high rise buildings.
<b>Learning outcomes of the course unit</b>	It has been observed that buildings that do not have a proper bearing system are damaged during earthquakes. The aim of the course is to be able to choose properly reinforced concrete systems.
<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, history and examples from nature</li> <li>2) Loads</li> <li>3) Design Steps: Preliminary project, final project, application project, design program</li> <li>4) Floors: Beamed floors, toothed floors, ribbed and asphalt floors, beamless floors, cassette floors</li> <li>5) Bearing System Regulation Principles: Establishment of general bearing systems</li> <li>6) 1. Mşdterm</li> <li>7) Bearing System Regulation Principles: Columns, retaining walls</li> <li>8) Bearing System Regulation Principles: Beams, plates</li> <li>9) Bearing System Regulation Principles: Concrete retaining walls, examples without application</li> <li>10) High Rise Buildings: Introduction, history, overview of types of bearing systems, high strength concrete, factors to be considered in selecting a bearing system</li> <li>11) High Rise Buildings: Transfer of horizontal loads, selection of proper stiffness elements, retaining walls, retaining walls with openings, tubes.</li> <li>12) High Rise Buildings: Tubes formed in frame type systems, tubes formed in frame type systems with retaining walls.</li> <li>13) 2. Midterm + Frames</li> <li>14) Shells, folded plates</li> <li>15) Homework presentations</li> </ol>
<b>Planned learning activities and teaching methods</b>	<p>3 lecture hours per week (3+0)</p> <p>Internet browsing, library work</p> <p>Presentation</p> <p>Homework</p> <p>Midterm exam and required works</p> <p>Final exam and required works</p>

<b>Assessment methods and criteria</b>		<b>Quantity</b>	<b>Percentage (%)</b>						
	Mid-terms	2	50						
	Assignment	2	10						
	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>Work activity</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	13	0	0					
	Reading	14	0	0					
	Searching in Internet and Library	14	1	14					
	Designing and Applying Materials	14	0	0					
	Preparing Reports	14	0	0					
	Preparing Presentation	14	1	14					
	Presentation	14	0	0					
	Mid-Term and Studying for Mid-Term	2	10	20					
	Final and Studying for Final	1	10	10					
	Other	0	0	0					
	Total Workload:			100					
	Total Workload / 25:			4					
	ECTS:			4					
<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			X				

	experiments, gather data, analyze and interpret results for investigating complex civil engineering problems or discipline specific research questions.						
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 <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>		Yrd. Doç. Dr. Meral BEĞİMGİL <a href="mailto:begimgil@gazi.edu.tr">begimgil@gazi.edu.tr</a>					