IM 388 REINFORCED CONCRETE I		CIVIL ENGINEERING	
Semester	**Credit Structure**		
	Lecture	**Recitation**	**Laboratory**
6	3	0	0
Language	English		
Compulsory / Elective	Compulsory		
Prerequisites	IM 226		
Catalog Description	Introduction to reinforced concrete fundamentals. Basic principles of analysis by ultimate load theory. Reinforced concrete members subjected to pure flexure and reinforced concrete beams. Under, balanced, and over-reinforced reinforced concrete beams. Analysis of reinforced concrete members for uni-axial loading and short columns Combined flexure and interaction diagrams. Slender columns.		
Course Objectives	To give the basic principles of handling and solving the reinforced concrete structure problems.		
Course Outcomes	Gaining the skill of handling and solving the reinforced concrete structure problems.		
Textbook and /or References	McGregor “Reinforced Concrete Structures” Prentice Hall, 1997. 2) W.H.Mosley, J.H.Bungey “Reinforced Concrete Design” McMillan Ed.Hd. 1991		
Assessment Criteria		**Quantity**	**Percentage**
	Midterm Exams	2	50
	Quizzes		
	Homeworks		
	Projects		
	Term Paper		
	Laboratory Work		
	Other		
	Final Exam	1	50
Course Category by Content (%)	**Mathematics and Basic Sciences**	40	
	Engineering Science	40	
	Engineering Design	20	
	Social Sciences		
Instructors	**Prof.Dr.Sıddık Şener**		

COURSE PLAN	
Week	**Topics**
1	Introduction, materials
2	Structural safety, load and material factors
3	Internal moment, ultimate strength design assumptions
4	Simply reinforced beam
5	Beams with compression reinforcement
6	Flanged beams
7	I.Exam
8	Cracking
9	Short columns
10	Minimum reinforcements
11	Axial force and bending moment for columns
12	II.Exam
13	Slender columns
14	High column behavior

RELATIONSHIP BETWEEN THE COURSE AND DEPARTMENT CURRICULUM				
	Program Outcomes	**1**	**2**	**3**
1	An ability to apply knowledge of mathematics, science, and engineering			X
2	An ability to design and conduct experiments, as well as to analyze and interpret data			X
3	An ability to design a system, component, or process to meet desired needs			X
4	An ability to function on multi-disciplinary teams		X	
5	An ability to identify, formulate, and solve engineering problems			X
6	An understanding of professional and ethical responsibility			X
7	An ability for effective written and oral communication in Turkish and English		X	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context		X	
9	A recognition of the need for, and ability to engage in life-long learning		X	
10	A knowledge of contemporary issues		X	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice			X
Contribution of the course : 1:None 2:Partially 3:Completely				