IM 383 STRUCTURAL ANALYSIS I		CIVIL ENGINEERING	
Semester	**Credit Structure**		
	Lecture	**Recitation**	**Laboratory**
5	3	0	0
Language	English		
Compulsory / Elective	Compulsory		
Prerequisites	None		
Catalog Description	Analysis of Statically determinate structures. Analysis of pin-joint trusses. Analysis of statically determinate beams. Relationship between bending moment and shear force. Examples of statically determinate two dimensional rigid joint frames. Portal frames. Structures on multiple supports made statically determinate by internal hinges. Three hinged frames and arches. Influence lines for statically determinate structures. Displacements and deformations. Virtual work and energy principles.		
Course Objectives	To teach the principles of computations of statically determinate structures.		
Course Outcomes	Gaining the skill of handling and solving the problems related to statically determinate structures.		
Textbook and /or References	Çakıroğlu, A., Çetmeli, E. , " Structural Analysis I ", Volume I, Night Edition , Beta Inc. Cağaloğlu-İstanbul, 1995, 301p. Ghali, A., Neville, A. M., " Structural Analysis ", Third Edition, Chapman and Hall, London, New York, 1989, 870 pages. Coates, R. C., Cotie, M.G., Kong, F. K. , " Structural Analysis ", Third Edition, Chapman and Hall, Ltd. London, 1990, 605 pages.		
Assessment Criteria		**Quantity**	**Percentage**
	Midterm Exams	2	45
	Quizzes		
	Homeworks	5	5
	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	**Öğr. Gör. Dr. Sabahattin AYKAÇ**		

COURSE PLAN	
Week	**Topics**
1	Analysis of statically determinate structures
2	Analysis of pin-joint trusses.
3	Relationship between bending moment and shear force
4	Examples of statically determinate two-dimensional rigid joint frames, Portal frames.
5	Structures on multiple supports made statically determinate by internal hinges
6	Midterm Exam 1
7	Three hinged frames and arches
8	Three hinged frames and arches
9	Influence lines for statically determinate structures
10	Influence lines for statically determinate structures
11	Displacements and deformations
12	Virtual work and energy principles
13	Midterm Exam 2
14	Virtual work and energy principles

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			