

MAT 101 MATHEMATICS I		Civil Engineering	
Semester	Credit Structure		
	Lecture	Recitation	Laboratory
1	4	0	0
Language	Turkish		
Compulsory / Elective	Compulsory		
Prerequisites			
Catalog Description	Number sets. Absolute value. Inequalities covering absolute value function. Induction. Coordinates. Complex numbers. Functions. Trigonometric functions. Sequences. Function limits. Continuity. Properties of continuous functions. Derivative. Mean value theorem and its applications. Finding the extreme values, and its applications. Graphing. Differential and its applications. Integration. Functions defined by integrals. Integration formulas. Techniques of integration. Calculation of area, volume, and arc. Polar coordinates.		
Course Objectives	To provide students a mathematical background		
Course Outcomes	Skills for approaching a problem, devising solutions, analysis, and evaluation, and systematic thinking.		
Textbook and /or References	EDWARDS C. Henry & PENNEY David E., Matematik Analiz ve Analitik Geometri, Palme Yayıncılık, Ankara, 2001 Mustafa Balcı, Genel Matematik, Balcı Yayınları, Ankara, 2001		
Assessment Criteria		Quantity	Percentage
	Midterm Exams	1	50
	Quizzes		
	Homework		
	Projects		
	Term Paper		
	Laboratory Work		
	Other		
	Final Exam	1	50
	Mathematics and Basic Sciences	100	
	Engineering Science		
	Engineering Design		
	Social Sciences		
Instructors	Prof. Güven ÜNAL		

COURSE PLAN	
Week	Topics
1	Sets, numbers, absolute number and intervals
2	Inequalities and solutions of equation
3	The definition functions and some functions
4	Trigonometric functions and graphs of some functions
5	Limit, limit of functions, properties of limit
6	Continuity
7	Properties of continuous functions
8	Derivative, higher order derivative, differential
9	Differentiation rules
10	Derivatives of some functions
11	Applications of derivatives
12	Graphs
13	Polar coordinates
14	Integral

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				