

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
CALCULUS I	EEE1210745	Spring Semester	4+0	4	6
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Özge BİÇER ÖDEMİŞ				
Name of Lecturer(s)	Assist.Prof. Özge BİÇER ÖDEMİŞ				
Assistant(s)					
Aim	To teach fundamental math contents, methods and techniques, and its applications for the study of engineering. To provide supports on studies and researches in the area of engineering.				
Course Content	This course contains; Functions,Functions,Limits and Continuity,Limits and Continuity,Derivatives,Derivatives,Applications of Derivatives,Applications of Derivatives,Integration,Integration,Applications of Definite Integrals,Applications of Definite Integrals,Transcendental Functions,Improper Integrals.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Interpret a function of one variable and its graph to solve the limit graphically, numerically and algebraically			12, 14, 6, 9	A, E	
2. Apply the notions of continuity and differentiability to algebraic and transcendental functions.			12, 14, 6, 9	A, E	
3. Compute derivatives of functions by using rules and carry out them in applications such as computing rates of change, finding extreme values, concavity and graphing.			12, 14, 6, 9	A, E	
4. Apply Fundamental Theorem of Calculus and integration techniques to compute proper integrals.			12, 14, 6, 9	A, E	
5. Use integration to compute area between curves and volume of a solid.			12, 14, 6, 9	A, E	
6. Calculate and compare the concept of proper and improper integrals.			12, 14, 6, 9	A, E	
Teaching Methods	12: Problem Solving Method, 14: Self Study Method, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Functions	Book chapter 1.1, 1.2, 1.4, 1.5			
2	Functions	Book chapter 1.3, 1.6, 11.1,11.2			
3	Limits and Continuity	Book chapter 2.1, 2.2, 2.3, 2.4			
4	Limits and Continuity	Book chapter 2.5, 2.6			
5	Derivatives	Book chapter 3.2, 3.3, 3.4			
6	Derivatives	Book chapter 3.5, 3.6, 3.7, 11.2			
7	Applications of Derivatives	Book chapter 4.1, 4.2, 4.3, 4.4			
8	Applications of Derivatives	Book chapter 3.11, 4.4, 4.5			
9	Integration	Book chapter 5.1, 5.2, 5.3, 5.4			
10	Integration	Book chapter 5.5, 8.1, 8.2, 8.3, 8.4, 8.5			
11	Applications of Definite Integrals	Book chapter 5.6, 6.1			
12	Applications of Definite Integrals	Book chapter 6.2, 6.3			
13	Transcendental Functions	Book chapter 7.1, 7.2			
14	Improper Integrals	Book chapter 8.8			
Evaluation Methods		Weight(%)			
Midterm Exam		30			
General Exam		70			

Resources
Thomas' Calculus, 12th ed., G. B. Thomas, Jr. and M. D. Weir and J. Hass, Addison-Wesley