Course title		Code	semester	T+U	credit	ECTS
Math 2			2	4+0	4	6

Prerequisite Courses	None
Language of the Course	English
Course Level	Undergraduate
Type of Course	Compulsory
Course Coordinator	
Instructors	
Course Assistants	
The aim of lesson	The aim of this course is to give the knowledge of integration required in Engineering Faculties and to teach the applications of integral. This course aims to find the numerical value of a certain total quantity based on a local knowledge.
Course Content	Definite and indefinite integrals, applications about integrals (Area and volume of rotary bodies), generalized integrals, series and sequences, conics.
Course Learning Outcomes	**At the end of this course, the student;** 1. Explains the concept of integral, the basic concepts of area and volume calculations and infinite series. 2. Solves the problems related to the subjects by practice. 3. Comprehend polar coordinates, infinite series, power series and make applications. 4. Calculates the volume and areas of rotating surfaces. 5. Calculates power series and radius of convergence.

Weeks	Topics
one	Primitive function and indefinite integrals, methods of integration
2	Variable replacement Method
3	Partial Integration Method
4	Rational fractionation method, integration of irrational algebraic expressions
5	Integration of trigonometric expressions. The binomial integral. (Distance Learning)
6	Calculation and applications of rational hyperbolic expressions (Distance Education)
7	Midterm -Definite integrals
8	Splitting Intervals in Certain Integral (Distance Education)
9	Area calculation as an application of definite integrals, calculation of the area between two curves, arc length
10	Calculation of volumes and areas of rotating surfaces
11th	Generalized Integral and Convergence Tests
12	Improper integrals. Calculation of area, arc and surface areas in polar coordinates and polar coordinates
13	Primitive functions and indefinite integrals, methods of integration.
14	Variable replacement Method
15	Partial Integration Method

General Competencies

In assessments, it is an important criterion for students to understand the main topics of this course and to use them in engineering field applications.

resources

1) Hacisalihoglu, H. (2007). General and Basic Mathematics, Ankara: Hacısalihoğulları Publications
2) Silverman, RA (1992). Calculus and Analytical Geometry I. Istanbul: Literatür Publishing.
3) Adams, RA, Calculus, Addison-Wesley, 1999.
4) Murathan Cengizhan, Özdamar Ertuğrul, Hacısalihoğlu H. Hilmi, Ekmekçi Nejat, Yaylı Yusuf, Solved Differential Geometry Problems Volume: 2, Bilim Publications, 2005.
5) Balcı Mustafa, General Mathematics – 2, Balcı Publications, 2007.
6) Balcı Mustafa, Solved General Mathematical Problems – 2, Balcı Publications, 2007.

Evaluation System

The dates, days and hours of the Midterm Exam, Quiz, Final Exam and Evaluations will be announced later, according to the decision of the Faculty Administrative Board.

WITH PROGRAM LEARNING OUTCOMES COURSE LEARNING OUTCOMES RELATIONSHIP TABLE											
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO 11
LO1	5	4	4	5	3	3	2	3	3	3	2
INCREASE2	5	5	5	4	3	4	1	4	2	2	3
INCREASE3	5	5	5	5	3	3	1	2	2	2	3
INCREASE4	5	4	4	5	3	3	2	3	3	3	2
LO: Learning Outcomes OP: Program Outcomes											
Contribution Level		1 Very Low		2 Low		3 Medium		4 High		5 Very High	

OUTCOMES OF THE PROGRAM AND THE RELATIONSHIP OF THE RELATED COURSE

Course name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
Mathematics II	5	5	5	5	3	3	1	3	2	2	3