DIFFERENTIAL AND INTEGRAL CALCULUS I

1	Course Title:	DIFFERENTIAL AND INTEGRAL CALCULUS I	
2	Course Code:	MAT1089	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	4.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	Yok	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. AHMET TEKCAN	
15	Course Lecturers:	Prof.Dr.Osman BİZİM Doç.Dr.Betül GEZER	
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Fen-Edebiyat Fakültesi Matematik Bölümü 16059 Görükle Bursa-TÜRKİYE 0 224 294 17 51 tekcan@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The aim of the course is to make the students gain the some algebraic properties single valued functions including, limit, continuity, derivative, theorems on derivatives, applications of derivatives, graphics, indefinite integrals, reducing formulas, definite integrals, improper integrals, applications of integrals, sequences, series, matrices and determinants.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Learn the sets, numbers, relations and functions.
		2	Learn the limit and continuity on single valued functions.
		3	Learn the derivatives of some specific functions.
		4	Learn the applications of derivatives, maximum-minimum problems on single valued functions.
		5	Learn the increasing and decreasing of functions, convex and concave of functions.
		6	Learn the draw the some specific functions.
		7	Learn the indefinite integrals, Riemann sums.
		8	Learn the calculate integrals with change of variables, partial integration, simple fractions and trigonometric change of variables.
		9	Learn the applications of integrals, area, volume, length of arc. Sequence and series, power series and their radius and intervals of convergence.
		10	Learn to matrices, determinants and linear equation systems, Gauss method, inverse matrix method.
21	Course Content:		
	Course Content:		

Week	Theoretical	Practice
1	Overview of basic concepts on lessons, sets, numbers, identities and equations	Solutions in questions of the subjects of theoretical
2	Relations, functions, and function types	Solutions in questions of the subjects of theoretical
3	Limits and continuity	Solutions in questions of the subjects of theoretical
4	Derivates and derivates some specific functions, geometric interpretation of the derivative	Solutions in questions of the subjects of theoretical
5	Increasing-decreasing functions, concavity of curves, maximum and minimum problems of one valued functions	Solutions in questions of the subjects of theoretical
6	Indeterminate forms on limits and L'Hospital rule	Solutions in questions of the subjects of theoretical
7	Graphing functions with calculus	Solutions in questions of the subjects of theoretical
8	Midterm Exam+ Revision of lesson	
9	Indefinite integrals, computing the integrals with change of variables, partial integration, computing the integrals with specific change of variables, trigonometric change of variables	Solutions in questions of the subjects of theoretical
10	Definite integrals, Riemann sums, the fundamental theorem of calculus	Solutions in questions of the subjects of theoretical
11	Approximate integration, improper integrals	Solutions in questions of the subjects of theoretical
12	Applications of definite integrals, area, volume, length of arc, area of surface of	Solutions in questions of the subjects of theoretical
13	representations of functions as power series	Solutions in questions of the subjects of theoretical
14	Matrices, determinants and linear equation	Solutions in questions of the subjects of theoretical
22	Textbooks, References and/or Other	[1] O. Bizim, A. Tekcan ve B. Gezer, Genel Matematik
	Assesment	[2] F. Akbulut ve A. Çalışkan, Matematik Analiz Alıştırma ve Problemler Derlemesi, İzmir, 1987
23		[4] G. Thomas and R. Finney, Calculus and Analytic Geometry Part I, Addison-Wesley Pub, 1994

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	4.00	56.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	5.00	70.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	12.00	12.00
Others	0	0.00	0.00
Final Exams	1	14.00	14.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		

24	**ECTS / WORK LOAD TABLE**

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	5	3	5	5	4	4	3	4	4	3	5	0	0	0	0
ÖK2	5	5	4	5	5	2	4	4	3	4	4	5	0	0	0	0
ÖK3	5	5	3	5	5	3	4	4	3	4	4	5	0	0	0	0
ÖK4	5	5	4	5	5	2	4	4	3	4	4	5	0	0	0	0
ÖK5	5	5	3	5	5	4	4	3	4	4	3	5	0	0	0	0
ÖK6	5	5	4	5	5	2	4	4	3	4	4	5	0	0	0	0
ÖK7	5	5	3	5	5	3	4	4	3	4	4	5	0	0	0	0
ÖK8	5	5	4	5	5	2	4	4	3	4	4	5	0	0	0	0
ÖK9	5	5	3	5	5	3	4	4	3	4	4	5	0	0	0	0
ÖK10	5	5	4	5	5	2	4	4	3	4	4	5	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**			**3 Medium**			**4 High**			**5 Very High**				