ANALYSIS I

1	Course Title:	ANALYSIS I	
2	Course Code:	MAT1001	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	8.00	
8	Theoretical (hour/week):	4.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. İSMAİL NACİ CANGÜL	
15	Course Lecturers:	Prof. Dr. Metin ÖZTÜRK, Prof. Dr. Sibel YALÇIN TOKGÖZ, Prof. Dr. Osman BİZİM, Doç. Dr. Ahmet TEKCAN, Yrd. Doç. Dr. Musa DEMİRCİ, Yrd. Doç. Dr. Hacer ÖZDEN	
16	Contact information of the Course Coordinator:	cangul@uludag.edu.tr, 0224 2941756, Fen-Edebiyat Fakültesi, Matematik Bölümü, 16059, Görükle / Bursa	
17	Website:	http://homepage.uludag.edu.tr/~cangul/derslerim.html	
18	Objective of the Course:	To give the notions such as function, sequence, limit, continuity and derivative in detail	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Knows the fundamental notions of Analysis
		2	Can apply the fundamental notions of Analysis
		3	Can comment on the fundamental notions of Analysis geometrically, physically, etc.
		4	Can transfer between cartesian, polar and parametric coordinate systems and can differentiate the differences
		5	Knows the origins and history of the main notions
		6	Knows the corresponding English meanings of the main notions
		7	
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		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Sets	Examples of sets and set operations
2	Numbers	Examples of number sets

3	Relations and Functions	Examples of relations and functions, operations of functions
4	Sequences	Examples of sequences, subsequences, calculation of the terms of the sequence, limit of a sequence, arithmetic and geometric sequences
5	Limit	Calculation of limit in real numbers and extended real numbers
6	Indefinite cases	Examples of indefinite cases
7	Differential and approximation	Use of differential in approximations
8	Definition of derivative	Examples of basic derivation rules
9	Midterm exam and general review	General review
10	Geometric and physical meaning of derivative, higher order derivatives	Slope, tangent and normal line, examples of relations between speed, acceleration and length of motion
11	Derivatives of implicit and inverse functions, extremum problems	Examples of extremum problems
12	Increasing-decreasing functions, inflection points	Examples of increasing-decreasing functions and inflection points
13	Other applications of derivative	Examples of applications of derivative in other areas
14	Drawing graphs of rational functions	Examples of drawing graphs of rational functions and briefly other functions

22	Textbooks, References and/or Other Materials:	Calculus, İsmail Naci CANGÜL (Editör), Nobel Yayınları, 2013

23	Assesment				
Theoretical			14	4.00	56.00
Practicals/Labs			14	2.00	28.00
Midterm Exam	1	40.00	14	7.00	98.00
Homeworks			0	0.00	0.00
Projects			0	0.00	0.00
Home work-project	0	0.00			
Field Studies			0	0.00	0.00
Midterm exams			1	20.00	20.00
Total	2	100.00			
Others			0	0.00	0.00
Final Exams			1	34.00	34.00
Total Work Load					236.00
Total		100.00			7.87
ECTS Credit of the Course					8.00

Activites	Number	Duration (hour)	Total Work Load (hour)

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	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	5	0	0	5	0	0	5	4	0	0	0	0	0	0	0	0
ÖK3	5	3	0	0	5	0	2	4	0	3	0	0	0	0	0	0

ÖK4	2	4	0	0	5	0	2	5	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	5	0	0	2	0	3	0	0	0	0	0	0
ÖK6	0	0	0	0	0	5	0	0	0	3	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**