ANALYSIS III

1	Course Title:	ANALYSIS III	
2	Course Code:	MAT2001	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	10.00	
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:	Analiz ve Fonksiyonlar Teorisi bilim dalı öğretim üyeleri	
16	Contact information of the Course Coordinator:	ometin@uludag.edu.tr, 0 (224) 2941760 U.Ü. Fen-Ed. Fak. Matematik Bölümü, Görükle/BURSA	
17	Website:		
18	Objective of the Course:	Aim of the lecture is to make the students gain the basic of complex functions theories at graduate level. The targets are to give the algebra	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Knows pointwise and uniform convergence of function sequences
		2	Learns the topology of R^n.
		3	Knows limit, continuity and partial derivative of vector-valued and multi-variable functions.
		4	Knows the geometric meaning of partial derivatives.
		5	Knows the total differential and directional derivative.
		6	Learns the application of implicit function and inverse function theorems
		7	Learns differentiability.
		8	Knows to solve the problems of extremum.
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Pointwise and uniform convergence of function sequences, uniform convergence and integration, uniform convergence and differentiation.	The solution of problems related
2	Uniform convergence of function series.	The solution of problems related

3	The algebraic and topology structure of R^n	The solution of problems related
4	Connectedness, compactness, sequences and series in R^n.	The solution of problems related
5	limits and continuity of vector-valued functions.	The solution of problems related
6	Derivative and integral of vector valued functions, space curves and lengths.	The solution of problems related
7	Regions of definition of functions of several variables, examples, limit and continuity.	The solution of problems related
8	The partial derivative of functions of several variables, higher order derivatives.	The solution of problems related
9	Repeating courses and midterm exam	
10	the chain rule, differential, full differential	The solution of problems related
11	Directional derivative, implicit function and inverse function theorems.	The solution of problems related
12	Geometric meaning of partial derivatives, series expansion	The solution of problems related
13	Repeating courses and midterm exam	The solution of problems related
14	Eksremum problems and the Lagrange multiplier.	The solution of problems related

22	Textbooks, References and/or Other Materials:	B. MUSAYEV, K. KOCA, N. MUSTAFAYEV, Analiz IV, Seçkin Yayınevi 2006. M. BALCI, Matematik Analiz II, Balcı Yayınları, 2005; J.E.MARSDEN, A.J.TROMBA, Vector Calculus, Freeman company, 2003

Activites			Number	Duration (hour)	Total Work Load (hour)
TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**			
Theoretical			14	4.00	56.00
Practicals/Labs			14	2.00	28.00
Quiz	0	0.00	12	7.00	84.00
Homeworks			12	6.00	72.00
Projects	1	50.00	0	0.00	0.00
Field Studies			0	0.00	0.00
Midterm Exams			2	11.00	22.00
Others			12	2.00	24.00
Final Exams	1	50.00	1	14.00	14.00
Total Work Load					300.00
Total work load / 30 hr.					10.00
ECTS Credit of the Course					10.00

Contribution of Term (Year) Learning Activities to Success Grade

Contribution of Final Exam to Success Grade

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	1	3	1	3	4	2	1	4	4	1	0	0	0	0	0	0
ÖK2	1	4	1	3	4	2	2	4	4	1	0	0	0	0	0	0
ÖK3	1	4	1	2	4	2	4	4	4	2	0	0	0	0	0	0
ÖK4	2	3	2	3	3	2	4	4	4	1	0	0	0	0	0	0

ÖK5	2	3	2	3	3	2	4	4	4	1	0	0	0	0	0	0
ÖK6	2	4	1	2	4	2	4	4	4	2	0	0	0	0	0	0
ÖK7	1	4	1	2	4	2	4	4	4	1	0	0	0	0	0	0
ÖK8	1	4	1	2	4	2	5	4	4	2	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**