

## BUSINESS MATHEMATICS II

1	Course Title:	BUSINESS MATHEMATICS II	
2	Course Code:	ISL1402	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	5.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. GÜL EMEL	
15	Course Lecturers:	Doç. Dr. Gül EMEL Yar.Doç.Dr. Burcu AVCI ÖZTÜRK	
16	Contact information of the Course Coordinator:	ggokay@uludag.edu.tr Tel: 0224 29 41055	
17	Website:		
18	Objective of the Course:	To develop analytical thinking, solution producing to more complex problems and result evaluating skills of the students. And to provide a strong quantitative basis for the rest of the program courses.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To be able to state business problems with multi-variable functions.
		2	To be able to optimize the mathematical model of the problem.
		3	To be able to apply integral rules to business problems
		4	To be able to do basic calculations with matrices
		5	To be able to solve linear equation systems and their applications to business problems.
		6	To be able to optimize the matrix models with different techniques
		7	To be able to make economic evaluations with the results of the model
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		10	
21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Multi-variable functions		
2	Derivatives of multi-variable functions and partial derivative rules		
3	Optimization of multi-variable functions		

4	Constrained optimization and Lagrange multipliers applications	
5	Business applications of multi-variable functions	
6	Description and rules of integral and indefinite integral	
7	Definite integral and area calculation with integral (Midterm Exam)	
8	Business applications of integral	
9	Introduction to matrix algebra	
10	Definition of determinants, calculation of inverse matrix with Co-factors and determinants	
11	Calculation of inverse matrix with Gauss elimination method, linear equations	
12	Solving linear equations with Gauss elimination method and inverse matrix	
13	Solving linear equations with Cramer Method	
14	Business applications of matrices	

22	Textbooks, References and/or Other Materials:	* Mustafa Aytaç, Mustafa Sevüktekin, Erkan Işığışık, Sosyal Bilimlerde Matematik, Ezgi Kitabevi, Bursa, 2010. * Mustafa Sevüktekin, Zehra Başkaya, Matematiksel Analiz: İşletme ve Ekonomi Uygulamaları, Dora Yayıncılık, Bursa, 2010. * Bülent Koku, İşletme Matematiği, Beta Yayınevi.
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Activities		Number	Duration (hour)	Total Work Load (hour)
23	Theoretical Assessment	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preparation		14	4.00	56.00
Homeworks		0	0.00	0.00
Quiz		0	0.00	0.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Final Exam		1	25.00	25.00
Midterm exams		0	0.00	0.00
Others		0	0.00	0.00
Contribution of Term (Year) Learning Activities to Final Exams		40.00	30.00	30.00
Total Work Load				178.00
Contribution of Final Exam to Success Grade		60.00		5.10
Total work load/ 30 hr		178.00		
ECTS Credit of the Course				5.00
Measurement and Evaluation Techniques Used in the Course				

24	ECTS / WORK LOAD TABLE
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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	2	4	3	2	0	3	3	3	5	5	1	0	0	0	0	0
ÖK2	2	4	3	2	0	3	3	3	5	5	1	0	0	0	0	0
ÖK3	2	3	3	2	0	2	3	3	5	4	1	0	0	0	0	0

ÖK4	2	4	3	2	0	3	3	3	5	5	1	0	0	0	0	0
ÖK5	2	4	3	2	0	3	3	2	5	4	1	0	0	0	0	0
ÖK6	2	4	3	2	0	3	3	2	5	4	1	0	0	0	0	0
ÖK7	3	4	3	2	0	4	4	4	5	5	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			