LINEEAR ALGEBRA II

1	Course Title:	LINEEAR ALGEBRA II
2	Course Code:	MAT0504
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	3
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. Atilla Akpınar
15	Course Lecturers:	Prof.Dr. Basri ÇELİK- Prof.Dr. Esen İYİGÜN
16	Contact information of the Course Coordinator:	E-posta: aakpinar@uludag.edu.tr Telefon: +90 224 2941774 Adres: Uludağ Üniversitesi Fen-Edebiyat Fakültesi Matematik Bölümü 16059 Görükle-Bursa-TÜRKİYE
17	Website:	
18	Objective of the Course:	The objective of this course, by constructing the relation between linear mappings and matrices, is to understand the finding the echelon form of a matrix and the inverse (if exists) of a matrix, the rank of a matrix and also solving to linear equation systems with several methods.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	constructs to matrix of the linear transformation
	2	uses elementary row operations, elementary matrices and matrix algebra to solve systems of equations
	3	understands determinants and their properties
	4	develops your ability to solve problems involving linear equations, matrices, determinants and vectors
	5	learns how to find/calculate the determinant, inverse, transpose of matrices
	6	understands matrix notation and the different matrix forms
	7	demonstrates proficiency in correct formulation and solving linear problems in terms of systems of linear equations in matrix notation
	8	writes solutions to problems involving linear algebra in a clear, mathematically-correct, and grammatically-correct fashion

		9	
		10	
21	Course Content:		
	Course Content:		
Week	Theoretical		Practice
1	Matrix corresponding to linear transformation, rank of a linear transformation		
2	Change of basis and properties of matrix		
3	Elementary operations, echolon form and reduced echolon form		
4	Elementary operations of vectors and matrices		
5	Linear equation systems, definition and examples, solution method by Gauss method		
6	Solution of Linear equation systems by Gauss-Jordan method and LU partition		
7	Permutations, odd-even permutations, the group of permutations		
8	Midterm exam and evaluation of midterm exam, repeat of previous subjects		
9	n-linear alternative functions		
10	Determinant and basic properties of determinant functions		
11	Laplace formula for determinant and examples		
12	Inverse matrix, determinant of a linear transformation		
13	Solution of linear equation systems by determinants		
14	Characteristic vectors and characteristic values		
22	Textbooks, References and/or Other Materials:		1) Lineer Cebir, H.Hilmi Hacısalihoğlu, Ankara, 1985 2) Uygulamalı Lineer Cebir, B.Kol-D.R.Hill (tercüme), Ankara, 2002 3) Linear Algebra, Serge Lang, Newyork, 1972 4) Elemantary Linear Algebra, Hartfiel.Hobbs, 1987, PWS Publisher
23	Assesment		

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
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

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	2.00	28.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	11.00	11.00
Others	14	2.00	28.00
Final Exams	1	11.00	11.00
Total Work Load			120.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	0	0	0	0	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**