LINEAR ALGEBRA II

1	Course Title:	LINEAR ALGEBRA II
2	Course Code:	MAT1004
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	7.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. SÜLEYMAN ÇİFTÇİ
15	Course Lecturers:	Doç.Dr.Basri ÇELİK- Yrd.Doç.Dr.Atilla AKPINAR- Öğr.Gör.Dr.Esen İYİGÜN
16	Contact information of the Course Coordinator:	E-posta: sciftci@uludag.edu.tr Telefon: +90 224 2941754 Adres: Uludağ Üniversitesi Fen-Edebiyat Fakültesi Matematik Bölümü 16059 Görükle-Bursa-TÜRKİYE
17	Website:	
18	Objective of the Course:	To find matrix of the linear transformation, to solve linear equation systems by elementary operations, to introduce permutation and determinant functions and to teach methods of solution of the linear equation systems.
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	Solving problem
2	Change of basis and properties of matrix	Solving problem
3	Elementary operations, echolon form and reduced echolon form	Solving problem
4	Elementary operations of vectors and matrices	Solving problem
5	Linear equation systems, definition and examples, solution method by Gauss method	Solving problem
6	Solution of Linear equation systems by Gauss-Jordan method and LU partition	Solving problem
7	Permutations, odd-even permutations, the group of permutations	Solving problem
8	Midterm exam and evaluation of midterm exam, repeat of previous subjects	Solving problem
9	n-linear alternative functions	Solving problem
10	Determinant and basic properties of	Solving problem
12	Inverse matrix, determinant of a linear	Solving problem
13	Solution of linear equation systems by determinants	Solving problem
	values	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
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	14.00	14.00
Others	14	3.00	42.00
Final Exams	1	14.00	14.00
Total Work Load			210.00
Total work load/ 30 hr			7.00
ECTS Credit of the Course			7.00

Materials:

2) Uygulamalı Lineer Cebir, B.Kol-.R.Hill (tercüme), Ankara, 2002
4) Elemantary Linear Algebra Hartfiel.Hobbs, 1987, PWS Publisher
McGraw-Hill Book Company, 1966
6) Linear Algebra with Applications, Gareth Williams

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

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	1	2	0	1	2	1	2	2	2	0	0	0	0	0	0
ÖK2	2	2	1	0	2	2	2	1	1	1	0	0	0	0	0	0
ÖK3	3	2	2	0	3	3	2	2	2	2	0	0	0	0	0	0
ÖK4	3	4	3	0	4	3	4	2	2	3	0	0	0	0	0	0
ÖK5	4	3	2	0	3	4	5	3	4	4	0	0	0	0	0	0
ÖK6	4	4	3	0	5	3	4	4	3	3	0	0	0	0	0	0
ÖK7	3	2	5	0	4	2	3	5	3	4	0	0	0	0	0	0
ÖK8	5	4	4	0	4	4	3	5	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**