

<b>Department</b> Department of Mathematics			<b>Academic Year</b> 2022-2023	<b>Date</b> 01/12/2022	
<b>Course Unit Code</b> MATH1101	<b>Course Unit Title</b> Linear Algebra I		<b>Semester/Year</b> Fall / 1	<b>Number of ECTS Credits</b> 5	
<b>Language of Instruction</b>	Turkish				
<b>Type of Course Unit</b>	Compulsory				
<b>Prerequisites and co-requisites</b>	-				
<b>Address of course</b>	-				
<b>Local Credit</b>	<b>Theoretical</b>	<b>Practical</b>	<b>Laboratory</b>	<b>Presentation</b>	<b>Project</b>
5	4	2	-	-	-
<b>Name of Lecturers</b>	Professor Vedat ASİL				
<b>Assistants</b>	-				

<b>Course content</b>	Propositions and accuracy tables, Algebra of propositions, Methods of proof, Existence of proof and methods of the opposite proof, Relations, Functions and Operations, Group, Ring, Field, Vector Spaces, Inner Product Spaces, Orthogonal Vector Systems, Linear dependence, Linear independence.
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Weekly Detailed Course Contents	
Week	Topic
1	Proposals and accuracy tables
2	Notions of $\exists$ and $\forall$ , problems related with methods of proof
3	Algebra of propositions
4	Methods of proof and methods of the opposite proof, basic properties of relations
5	Varieties and basic properties of functions, problems related with functions
6	Notions and properties of group, notions and basic properties of ring, problems related with group and ring
7	Notions and properties of field, problems related with group, ring and field
8	Vectors, dot product, vector spaces
9	General application
10	Inner product space, properties of inner product space, operations with inner product
11	Orthogonal vector systems and methods of orthogonality
12	Problems related with standard vector spaces
13	Linear dependence, linear independence and problems related with linear dependence and independence
14	A brief evaluation of the course content and topics

<b>Course Resources</b>	1. Lineer Cebir (H. Hilmi HACISALİHOĞLU) 2. Çözümlü lineer Cebir (H. Hilmi HACISALİHOĞLU)
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<b>Assessment Methods and Criteria</b>	<b>In-Term studies</b>	Quantity	Percentage (%)
	<b>Mid-Term Exams</b>	1	40
	<b>Quizzes</b>	-	-
	<b>Assignments</b>	-	-
	<b>Projects</b>	-	-
	<b>Term assignment</b>	-	-
	<b>Laboratory</b>	-	-
	<b>Other</b>	-	-
	<b>Final exam</b>	1	60
<b>On Assessment Methods and Criteria</b>	A grade of success; is determined by using the relative evaluation system or the discretion of the instructor. In order to be able to evaluate the courses in which the relative evaluation system and the teaching staff member's discretion are applied, the final exam score of the student must be at least YSAS. Students who fall below this score are considered to fail directly. For the courses that can not		

	be evaluated with the relative evaluation system, the distribution of the final grade of the final grade and the letter grades which are the equivalents of the success grades are determined by the consent of the instructor who gives the lesson using the table prepared by the Senate with 100 points. A student who has received a grade AA, BA, BB, CB or CC grade is deemed to have completed that course. A student who has received one of the grade DC or DD grades is deemed to have fulfilled that course condition. In order for a student who takes DD and DC letters to be counted as successful, the GNO must be at least 2.00. A student who receives a graded FF grade is considered to have failed that course.
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<b>Percentage of Course Category (%)</b>	<b>Mathematics and Basic Sciences</b>	100
	<b>Computer Sciences</b>	0
	<b>Programming Design</b>	0
	<b>Social sciences</b>	0

<b>Course Outcome</b>	Students get basic knowledge about methods for proof, relations, functions and operations, group, ring, field, vector spaces, Inner product and Inner product spaces.
<b>Aims of the course</b>	<ol style="list-style-type: none"> <li>1. Giving basic knowledge about Linear Algebra course to the students,</li> <li>2. Provide the students with the technical knowledge that deals with the Linear Algebra course and which can produce the most appropriate solution for the problems requiring solving.</li> </ol>
<b>The way of processing course</b>	Face to face

<b>Relation of the course with program outcomes</b>				
Learning outcomes		1	2	3
<b>1</b>	To have advanced theoretical and applied knowledge in a way to prioritize the scientific approach supported by textbooks containing up-to-date information in the field, application tools and other resources			
<b>2</b>	Adapting and transferring the knowledge gained in the field to secondary education		X	
<b>3</b>	Ability to independently carry out an advanced study in the field			
<b>4</b>	Be aware of the necessity of lifelong learning and continuously improve their professional knowledge and skills.			
<b>5</b>	Using a foreign language at least at the European Language Portfolio B1 General Level, following the information in the field and being able to communicate with colleagues			
<b>6</b>	To be able to use information and communication technologies together with computer software at minimum advanced level of European computer license required by the field.			
<b>7</b>	Have the ability to make oral and written presentation in native language			
<b>8</b>	Having the ability to understand spoken English and use English at reading level			
<b>9</b>	To have the ability to assimilate mathematical concepts and understand the relationships between them, to recognize different aspects of the same concepts and relationships			X
<b>10</b>	To have the ability to define and formulate the relationships between items in non-mathematical disciplines in the language of mathematics.			X
<b>11</b>	To have the ability to use mathematical knowledge in different problems			
<b>12</b>	Having the ability to develop computer programs using mathematical knowledge			
<b>Contribution of the course: 1:No 2:Partially 3:Completely</b>				

**Preparer:** Professor Vedat ASİL

**Preparation date:** 01/12/2022