Tarih: 3 Şubat 2026 19:02

Year

Department of Mathematics Education / Department of Mathematics and Science Education /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
İMEAE 204	LINEAR ALGEBRA 2	2.00	0.00	0.00	2.00	2.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	Bachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	To provide students with basic linear algebra concepts and to apply these concepts to problems encountered in other fields of mathematics.
Course Contents	:	This course covers Vector spaces, subspaces, eigenvalues and eigenvectors; dot product spaces, orthogonality of vectors, sets of orthonormal vectors. covers topics.
Recommended or Required Reading	:	Kitap ve not defteri Akkuş, İ. (2013). Lineer Cebir. Nobel Akademik Yayıncılık ./schaum's Outlines 2. B. Kolman and D.R. Hill, (2018). Elementary Linear Algebra, 9th Edition, Prentice Hall, New Jersey .
Planned Learning Activities and Teaching Methods	:	Reading; presentation; lecture; discussion; brainstorming; question-answer; case study
Recommended Optional Programme Components	:	In order to increase participation in the course, teacher candidates' suggestions regarding course content and teaching methods will be taken into consideration.
Course Instructors	:	Prof. Dr. Şenol Kartal
Instructor's Assistants	:	It is not available
Presentation Of Course	:	Face to face
Update Date	:	2/3/2026 6:59:49 PM
Dosya İndirilme Tarihi	:	2/3/2026

Course Outcomes

Upon the completion of this course a student :
1 Explain the concepts of vector spaces and subspaces.
2 linear combinations; define the concepts of stretching, base and dimension.
3 Learn the concept of inner product in vectors.
4 Be able to calculate the characteristic polynomial, eigenvalues and eigenvectors of a matrix
5 Can triangulate and diagonalize a given matrix.

Pre / Side Conditions

Course Code	Course Name	Condition	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Vector spaces			*1. Study the topics "Vector Spaces and Subspaces" between pages 141-146 in your reference book.		Ö.Ç.1
2.Week	*Vector spaces			*1. Study the topics "Vector Spaces and Subspaces" between pages 141-146 in your reference book.		Ö.Ç.1
3.Week	*Subspaces			*Study the topics "Vector Spaces and Subspaces" between pages 141-146 in your Primary Reference book.		Ö.Ç.1
4.Week	*Subspaces			*Study the topics "Vector Spaces and Subspaces" between pages 141-146 in your Primary Reference book.		Ö.Ç.1
5.Week	*Linear Dependence, Linear Independence			*Study the topics "Linear Independence and Linear Dependence" between pages 147-150 in your Primary Source book		Ö.Ç.2
6.Week	*Linear Dependence, Linear Independence			*Study the topics "Linear Independence and Linear Dependence" between pages 147-150 in your Primary Source book		Ö.Ç.2
7.Week	*Span, Base, Dimension			*Study the topics "Span, Base, Dimension" between pages 150-162 in your Primary Source book		Ö.Ç.2
8.Week	*Midterm Exam					
9.Week	*Inner product spaces			*1. Study the topics "Inner Product Spaces" between pages 202-206 in your source book.		Ö.Ç.3
10.Week	*Inner product spaces			*1. Study the topics "Inner Product Spaces" between pages 202-206 in your source book.		Ö.Ç.3
11.Week	*Inner product spaces			*1. Study the topics "Inner Product Spaces" between pages 202-206 in your source book.		Ö.Ç.3
12.Week	*Orthogonality of vectors, orthonormal vector sets.			*1. Study the topics "Orthogonality" between pages 206-239 in your source book.		Ö.Ç.3
13.Week	*Orthogonality of vectors, orthonormal vector sets.			*1. Study the topics "Orthogonality" between pages 206-239 in your source book.		Ö.Ç.3
14.Week	*Characteristic Polynomial, Eigenvalues, Eigenvectors			*Study the topics "Characteristic Polynomial, Eigenvalues, Eigenvectors" between pages 280-284 in your Primary Source book.		Ö.Ç.4
15.Week	*Diagonalization			*Study the "Diagonalization" topics between pages 285-300 in your Primary Source book.		Ö.Ç.5 Ö.Ç.5

Assesment Methods %

2 Final : 60.000

3 Vize : 40.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Final	1	1.00	1.00
Final Sınavı Hazırlık	12	1.00	12.00
Vize	1	1.00	1.00
Ders Öncesi Bireysel Çalışma	12	1.00	12.00
Derse Katılım	12	1.00	12.00
Ders Sonrası Bireysel Çalışma	12	1.00	12.00
Teorik Ders Anlatım	10	1.00	10.00
Uygulama / Pratik Sonrası Bireysel Çalışma	12	1.00	12.00
		Total :	72.00

Activities	Count	Time(Hour)	Sum of Workload
		Sum of Workload / 30 (Hour) :	2
			ECTS : 2.00

Program And OutcomeRelation

	P.O.1	P.O.2	P.O.3	P.O.4	P.O.5	P.O.6	P.O.7	P.O.8	P.O.9	P.O.10	P.O.11	P.O.12	P.O.13	P.O.14	P.O.15	P.O.16	P.O.17	P.O.18	P.O.19	P.O.20	P.O.21	P.O.22	P.O.23	P.O.24
	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 2
L.O. 1	0	0	5	0	0	0	5	0	0	4	0	5	0	0	0	0	0	3	0	0	2	0	0	0
L.O. 2	0	0	5	0	0	0	5	0	0	4	0	5	0	0	0	0	0	3	0	0	2	0	0	0
L.O. 3	0	0	5	0	0	0	5	0	0	4	0	5	0	0	0	0	0	3	0	0	2	0	0	0
L.O. 4	0	0	5	0	0	0	5	0	0	4	0	5	0	0	0	0	0	3	0	0	2	0	0	0
L.O. 5	0	0	5	0	0	0	5	0	0	4	0	5	0	0	0	0	0	3	0	0	2	0	0	0
Avarage	5.00	5.00	5.00	0.00	4.00	0.00	4.20	2.00	0.00	3.00	0.00	5.00	4.00	1.00	0.00	0.00	3.00	3.00	0.00	0.00	3.00	0.00	0.00	0.00

Ders/Program Çıktıları İlişkisi

P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24
25	25	25	0	20	0	21	10	0	15	0	25	20	5	0	0	15	15	0	0	15	0	0	0

Engel Durumu/Uyarlama Talebi : Engel durumuna ilişkin herhangi bir uyarlama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevsehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.