Tarih: 27 Ağustos 2025 21:49

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

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
İMEAE 205	ANALYTICAL GEOMETRY	2.00	0.00	0.00	2.00	4.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	Bachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	The aim of this course is to teach the students the Cartesian coordinates, vectors and lines in the plane and space, planes in three-dimensional space and the relationships between lines and planes.
Course Contents	:	This course covers the subjects of vectors in the plane and in space; lines in the plane; lines and planes in three-dimensional space; the relationships between lines, planes and planes.
Recommended or Required Reading	:	1. Özdemir H.M. (2016) Analitik Geometri ve Çözümlü Problemler. Altın Nokta Yayınları. 2. Checkered notebook
Planned Learning Activities and Teaching Methods	:	Lecture; Discussion; Question and Answer;
Recommended Optional Programme Components	:	It is not available
Course Instructors	:	Prof. Dr. Şenol Kartal
Instructor's Assistants	:	It is not available
Presentation Of Course	:	Face to face
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Course Outcomes

Upon the completion of this course a student :

1 Learns vectors in the plane and in space.

2 Learn the concepts of linear combination, stretching, linear dependence and independence, base and dimension.

3 Explain Euclid's inner product and cross product.

4 Knows the equation of a line in the plane and in space.

5 Learns the equation of the plane in space.

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*In the plane and in space and vectors			*1. Study the "vectors" topics between pages 102-106 in your reference book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.1 Ö.Ç.1
2.Week	*Vertical coordinate system			*1. Study the "rectangular coordinate system" topics between pages 106-116 in your reference book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.1 Ö.Ç.1
3.Week	*Linear combination, linear dependence and independence			*1. Study the "linear combination" topics between pages 122-127 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.2 Ö.Ç.2
4.Week	*Stretch, Base and size			*1. Study the topics "The base of a space" between pages 129-132 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.2 Ö.Ç.2
5.Week	*Inner product and its properties			*1. Study the "Inner Product" topics between pages 132-135 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.3 Ö.Ç.3
6.Week	*Euclidean inner product			*1. Study the "Euclidean Inner Product" topics between pages 136-148 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.3 Ö.Ç.3
7.Week	*Vector product and its properties			*1. Study the "vector product" topics between pages 148-162 in your reference book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.3 Ö.Ç.3
8.Week	*Midterm exam					
9.Week	*Equation of a straight line given a point and a direction			*1. Study the topics "Equation of a line in space" between pages 181-188 in your reference book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.4 Ö.Ç.4
10.Week	*The positions of two lines relative to each other			*1. Study the topics "relative to each other of two lines" between pages 189-194 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.4 Ö.Ç.4
11.Week	*Distance of a point to a line			*1. Study the topics "distance of a point to a line" between pages 195-208 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.4 Ö.Ç.4
12.Week	*Equation of a plane with a known point and normal			*1. Study the topics "Plane equation in space" between pages 211-218 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.5 Ö.Ç.5
13.Week	*Positions of two planes relative to each other			*1. Study the topics "relative positions of two planes" between pages 218-226 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.5 Ö.Ç.5
14.Week	*Distance of a point to a plane			*1. Study the topics "distance of a point to a plane" between pages 227-232 in your reference book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.5 Ö.Ç.5
15.Week	*Parametric representation of the plane equation			*1. Study the topics "Parametric representation of plane equation" between pages 230-240 in your source book.	*Oral presentation; Discussion; Question and Answer	Ö.Ç.5 Ö.Ç.5 Ö.Ç.5

Assesment Methods %

1 Ara Sınav : 40.000

3 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	1.00	1.00
Final	1	1.00	1.00
Ders Öncesi Bireysel Çalışma	14	2.00	28.00
Ara Sınav Hazırlık	7	2.00	14.00
Final Sınavı Hazırlık	7	2.00	14.00
Ödev	10	2.00	20.00
Ders Sonrası Bireysel Çalışma	14	2.00	28.00
		Total :	106.00
		Sum of Workload / 30 (Hour) :	4
		ECTS :	4.00

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.
L.O. 1	2	4	5	0	1	3	5	1	1	5	2	5	1	2	3	2	4	3	0	0	3	0	1	1
L.O. 2	2	4	5	0	1	3	5	1	1	5	2	5	1	2	3	2	4	3	0	0	3	0	1	1
L.O. 3	2	4	5	0	1	3	5	1	1	5	2	5	1	2	3	2	4	3	0	0	3	0	1	1
L.O. 4	2	4	5	0	1	3	5	1	1	5	2	5	1	2	3	2	4	3	0	0	3	0	1	1
L.O. 5	2	4	5	0	1	3	5	1	1	5	2	5	1	2	3	2	4	3	0	0	3	0	1	1
Avarage	2.00	4.00	5.00	0	1.00	3.00	5.00	1.00	1.00	5.00	2.00	5.00	1.00	2.00	3.00	2.00	4.00	3.00	0	0	3.00	0	1.00	1.0

BEWARE OF PLAGIARISM! Please pay attention to proper academic citation rules and avoid plagiarism, an unethical and academically fraudulent behavior, when completing reports, assignments, or other academic works, and it is treated with the same disciplinary action as cheating in a classroom setting. It is imperative to refrain from presenting another person s ideas, language, expressions, or any other form of intellectual property as your own. Regardless of quality, your assignments/projects/research should reflect your original work. Perfection is not a requirement, and in case of any uncertainties regarding academic writing guidelines, you may seek clarification from your course instructor.

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.