Tarih: 27 Ağustos 2025 20:54

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

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
İMEAE 307	ALGEBRA	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	:	This course aims to provide students with general information about algebraic structures and to develop their ability to think in abstract concepts using available data.
Course Contents	:	This course covers binary operations, divisibility, group definition, subgroups, permutation groups, cyclic groups, remainder classes, normal subgroups, quotient groups, homomorphism, isomorphism theorems, rings, ideals, and fields.
Recommended or Required Reading	:	1) Cebire Giriş, Ahmet Arıkan, Sait Halıcıoğlu, Palme Yayınevi, 2021 2) Cebire Giriş, Ahmet Sinan Çevik, Nobel Akademi, 2021
Planned Learning Activities and Teaching Methods	:	Narration Method, Problem Solving Method, Question-Answer Method
Course Instructors	:	Öğr. Gör. Dr. Neriman Kartal
Presentation Of Course	:	Face to face
Update Date	:	8/23/2025 3:42:55 PM
Dosya İndirilme Tarihi	:	8/27/2025

Course Outcomes

Upon the completion of this course a student :

1 Can master basic concepts such as sets, relations and functions.

2 Be able to define the concept of binary operation and make applications related to its properties.

3 Can use the definitions of groups and other subgroups and make relevant applications.

4 Be able to use the concepts of homomorphism and isomorphism defined on groups and make related applications.

5 Can use the definitions of ring, subring and ideal concepts and apply them.

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Basic Concepts: Relations, Functions, Matrices			*This week, you will review basic concepts and prepare for algebra. 1. Study topics 1-38 from the source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.1
2.Week	*Binary Transactions, Properties of Transactions			*For the topic to be covered this week, study the basic definitions of the subject of operations between pages 63-72 from Source 1.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.2
3.Week	*Groups			*This week, study the topic of groups from page 72-93 of the first resource and pay attention to the connection between binary operations and groups.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.3
4.Week	*Subgroups			*For the topic to be covered this week; work on pages 93-103 from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.3
5.Week	*Permutation Groups			*For the topic to be covered this week; work on pages 103-105 from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.3
6.Week	*Cyclic Groups			*For the topic to be covered this week; work between pages 121-135 from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.3
7.Week	*Normal Subgroups Division Groups			*For the topic to be covered this week; please study the 183-191 page range from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.3
8.Week	*Midterm Exam					
9.Week	*Homomorphism and Isomorphism in Groups			*This week, we will compare the algebraic structures of two groups using all the basic definitions and concepts. For this week's topic, please refer to pages 149-171 of the first resource.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.4
10.Week	*Homomorphism and Isomorphism in Groups			*This week, we will compare the algebraic structures of two groups using all the basic definitions and concepts. For this week's topic, please refer to pages 149-171 of the first resource.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.4
11.Week	*Ring			*This week, we will cover the topic of extending algebraic systems with a single operation to algebraic systems with two operations. For this week's topic, please refer to pages 233-242 of the first resource.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.5
12.Week	*Lower-ring			*For the topic to be covered this week; work on pages 242-251 from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.5
13.Week	*Object			*This week, we will cover the topic of the object, the ideal structure with two functions. For this week's topic, please study pages 255-263 from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.5
14.Week	*Ideals			*For the topic to be covered this week, please study the 263-270 page range from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	Ö.Ç.5
15.Week	*Ideals			*For the topic to be covered this week, please study the 263-270 page range from the first source.	*Narration Method Problem-Solving Method Question-Answer Method	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

Activities	Count	Time(Hour)	Sum of Workload
Ders Öncesi Bireysel Çalışma	14	1.00	14.00
Ders Sonrası Bireysel Çalışma	14	1.00	14.00
Ara Sınav Hazırlık	7	2.00	14.00
Final Sınavı Hazırlık	14	2.00	28.00
		Total :	72.00
		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.
L.O. 1	0	0	5	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 2	0	0	5	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 3	0	0	5	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 4	0	0	5	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 5	0	0	5	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
Avarage	0	0	5.00	0	0	0	5.00	0	0	0	0	5.00	0	0	0	0	0	0	0	0	0	0	0	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.