



ESOGÜ Mathematics and Computer Sciences Department  
COURSE INFORMATION FORM

SEMESTER Spring

<b>COURSE CODE</b>	821618033	<b>COURSE NAME</b>	Abstract Algebra with Mathematica II
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Labratory	Credit	ECTS	TYPE	LANGUAGE
8	2	2	0	3	5	COMPULSORY (x) ELECTIVE ()	Turkish

**COURSE CATAGORY**

<b>Mathematics</b>	<b>Computer</b>	<b>Social Science</b>
X	X	

**ASSESSMENT CRITERIA**

	Evaluation Type	Quantity	%
	<b>MID-TERM</b>	1st Mid-Term	1
2nd Mid-Term			
Quiz			
Homework			
Project			
Report			
Others (.....)			
<b>FINAL EXAM</b>		1	50

<b>PREREQUIEITE(S)</b>	None.
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<b>COURSE DESCRIPTION</b>	Symbolic Calculations by Mathematica, Meta-Mathematica, Studying with Rational Functions, Mathematica Modules, Introduction to Rings, The Concep of Ideal, Entire Rings, Ring Homomorphisms, Finite fields, Polynom Rings, Finding root, Ringoids package use.
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<b>COURSE OBJECTIVES</b>	Presenting main concepts and techniques in the content of the lesson, improving students' software writing skills by practising these concepts and techniques
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<b>ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION</b>	Gaining analytical thinking, problem solving and modelling skill
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<b>COURSE OUTCOMES</b>	Having sufficient knowledge about Mathematica and Abstract Algebra ;the ability of modelling and solving the problems by using the theoretical and applied information
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<b>TEXTBOOK</b>	Exploring Abstract Algebra With Mathematica, Allen C. Hibbard, Kenneth M. Levasseur.
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<b>OTHER REFERENCES</b>	1) Schaum's Outline Of Mathematica, Eugene Don. 2) The Student's Introduction To MATHEMATICA, Bruce F. Torrence, Eve A. Torrence.
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<b>TOOLS AND EQUIPMENTS REQUIRED</b>	None.
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## COURSE SYLLABUS

WEEK	TOPICS
1	Symbolic Calculations by Mathematica
2	Meta-Mathematica
3	Studying with Rational Functions
4	Mathematica Modules
5	Introduction to Rings
6	The Concep of Ideal
7	The Concep of Ideal
8	Midterm
9	Ring Homomorphisms
10	Finite fields
11	Infinite fields
12	Polynom Rings
13	Finding root
14	Ringoids package use
15,16	Final Exam

NO	PROGRAM OUTCOMES	3	2	1
1	The ability to apply knowledges of Mathematics and Computer Sciences,	x		
2	To have sufficient theoretical and practical knowledge of Mathematics at international level,		x	
3	The ability of describing, modelling and solving of mathematical problems at Mathematics and related subjects,	x		
4	The skill to solve and design a problem process in accordance with a defined target,	x		
5	Skills to analyze data, interpret and apply to other datum and using these data on computer,	x		
6	The skill to use the modern techniques and computational tools needed for mathematical applications,	x		
7	The skill to make team work within the discipline and interdisciplinary,			x
8	The ability to improve oneself by following the developments on other modern, scientific and technological subjects as well as Mathematics and Computer Sciences,	x		
9	The skill to communicate orally and in written way, in a clear and concise manner by having individual work skills and ability to independently decide and analytical thinking,		x	
10	The skill to have professional and ethical responsibility,			x
11	The skill to have consciousness for quality issues and scientific research,			x
12	The skill to be sensitive to environmental issues related with problems and development of living area and consistent in the social relations,		x	
13	Ability to solve problems in the working life faced to find an appropriate algoritms via mathematical modeling and to write computer programs,	x		
14	The skill to developed design of software systems at different complex levels,	x		
15	The credence of necessity of life-long learning and ability to apply the formation long-life learning.		x	

1:None. 2:Partially contribution. 3: Completely contribution.

**Instructor(s):**

**Signature:**

**Date:**