



ESOGÜ Mathematics and Computer Sciences Department  
COURSE INFORMATION FORM

SEMESTER Spring

COURSE CODE	821612003	COURSE NAME	Discrete Mathematics
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Labratory	Credit	ECTS	TYPE	LANGUAGE
2	3	0	0	3	5	COMPULSORY ( x ) ELECTIVE ( )	Turkish

COURSE CATAGORY

Mathematics	Computer		Social Science
x		X	

ASSESSMENT CRITERIA

	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	40
	2nd Mid-Term		
	Quiz		
	Homework		
	Project		
	Report		
	Others (.....)		
FINAL EXAM		1	60

PREREQUIEITE(S)	None
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COURSE DESCRIPTION	Binary operations, Peano axioms, Construction of integers, Prime numbers, Congruences, Fermat and Euler's Theorem
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COURSE OBJECTIVES	The main of the course is to introduce the concepts and techniques involved in the basic topics listed in this lecture and to develop skills in applying those concepts and techniques to the solution of problems
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ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	Gain the ability of problem solution.
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COURSE OUTCOMES	Having sufficient knowledge about Discrete Mathematics ;the ability of modelling and solving the problems by using the theoretical and applied information
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TEXTBOOK	Soyut Matematik, Ahmet Arıkan, Sait Halıcıoğlu,
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OTHER REFERENCES	Ayrık Matematik ve Uygulamaları, Ömer Akın
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TOOLS AND EQUIPMENTS REQUIRED	
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COURSE SYLLABUS	
WEEK	TOPICS
1	Functions, Binary operations
2	Peano axioms, Natural numbers
3	Construction of integers
4	Operations on integers
5	Positive and negative integers
6	Principle of induction
7	Problem solving
8	Midterm
9	Divisibility
10	Prime numbers
11	GCD
12	Congruences
13	Linear congruence systems
14	Fermat's and Euler's Theorems
15	Problem solving
16,17	Final

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 algorithms 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):** Doç. Dr. Ummahan Ege Arslan

**Signature:**

**Date:**