

TOROS ÜNİVERSİTESİ

Faculty Of Engineering
Industrial Engineering (English)

Course Information

DISCRETE MATHEMATICS					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
MAT204	Spring	3	0	3	4

Prerequisites and co-requisites	
Language of instruction	English
Type	Required
Level of Course	Bachelor's
Lecturer	
Mode of Delivery	Face to Face
Suggested Subject	
Professional practise (internship)	None
Objectives of the Course	To give Information about the discrete structures and basics of discrete mathematic. Describe applications of discrete mathematics in computer science, to maintain understanding students this relationship
Contents of the Course	Introduction to Discrete Mathematics, set theory, Mathematical Proof techniques, Logical methods, Boolean Algebra and functions, Algorithms

Learning Outcomes of Course

#	Learning Outcomes
1	Define the discrete structures and basics of discrete mathematics.
2	Interpret computer applications of discrete mathematics
3	Analyze discrete structures
4	Define and analyze engineering problems by using the mathematics, scientific and engineering knowledge

Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Introduction to Discrete Mathematics, Propositional logic and proof techniques	Lecturing
2	Mathematical Proof techniques, Set theory (Problems)	Lecturing
3	Operations on sets	Lecturing
4	Relations and operations	Lecturing
5	Relations and operations, Functions	Lecturing
6	Functions - Applications (problems)	Lecturing
7	Algebraic structures	Lecturing
8	Midterm	Exam
9	Lattice structures and Boolean algebra	Lecturing
10	Boolean functions, applications (problems)	Lecturing
11	Graph Theory - Applications	Lecturing
12	Algorithms	Lecturing

13	Algorithm applications (problems)	Lecturing
14	Finite state machines, acceptors, transducers, turing machines	Lecturing
15	Review	Lecturing
16	Final Exam	Exam

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Kenneth H.Rosen, Discrete Mathematics and Its applications, Mc.Graw Hill		

Method of Assessment

#	Weight	Work Type	Work Title
1	40%	Mid-Term Exam	Mid-Term Exam
2	60%	Final Exam	Final Exam

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Define the discrete structures and basics of discrete mathematics.	1	1,2
2	Interpret computer applications of discrete mathematics	2	1,2
3	Analyze discrete structures	4	1,2
4	Define and analyze engineering problems by using the mathematics, scientific and engineering knowledge	1	1,2

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	3	42
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	1	14
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0
7	Preparation for Midterm Exam	1	12	12
8	Midterm Exam	1	2	2
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	15	15
16	Final Exam	1	5	5
				90

