

Syllabus for  
cmpe220 Discrete Computational Structures  
(3+0+0) ECTS 5  
2018 Fall

## Catalog Definition

Propositional logic and proofs. Set theory. Functions and relations. Algebraic structures. Groups and semi-groups. Graphs. Lattices and Boolean algebra.

## Web Site

<http://www.cmpe.boun.edu.tr/courses/cmpe220>.

## General Information

Instructor	Haluk O. Bingol, bingol@boun.edu.tr
TA	Yigit Yildirim, yigit.yildirim@boun.edu.tr Ozlem Salehi, ozlem.salehi@boun.edu.tr
Course Schedule	TBA
PS Schedule	TBA

## Grading

Quizzes, Homeworks	10 %
Midterm 1	25 %
Midterm 2	30 %
Final	35 %
Presentations	as bonus

Exams are not open book any more. You can bring one-page (A4) of your handwritten notes to exams.

## Text Book

- Discrete and Combinatorial Mathematics, 5e; Grimaldi; *Addison-Wesley*, 2004; [QA39.2 .G7478]

## Reference Books

- Introduction to Discrete Structures; Preparata and Yeh; *Addison-Wesley*, 1973, [QA162.P7]
- Applied Abstract Algebra; Lidl and Pils; *Springer-Verlag*, 1984, [QA162.L53]
- Discrete Mathematics and Its Applications, 6e; Rosen; *McGraw-Hill*, 2007, [QA39.3.R67]

## Weekly Program (Tentative)

week	Subject
1	Logic and Proof
2	Sets and Functions
3-4	Binary Relations
5	Algebraic Structures
6-7	Integers, Division, Primes
8	Induction, Recursion, Recurrence Relations
9-10	Counting
11-13	Graphs and Trees

## ABET

### Course Learning Outcomes (CLO)

- CLO1: Understand formal descriptions
- CLO2: Explain using formal notation
- CLO3: Be able to do proofs

### Course Learning Outcome Contribution to Student Outcome

Student Outcomes	CLO1	CLO2	CLO3
(g) an ability to communicate effectively	x	x	
(o) knowledge of discrete mathematics	x		