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

Catalog Definition

Web Site

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]

Weekly Program (Tentative)

<table>
<thead>
<tr>
<th>week</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Logic and Proof</td>
</tr>
<tr>
<td>2</td>
<td>Sets and Functions</td>
</tr>
<tr>
<td>3-4</td>
<td>Binary Relations</td>
</tr>
<tr>
<td>5</td>
<td>Algebraic Structures</td>
</tr>
<tr>
<td>6-7</td>
<td>Integers, Division, Primes</td>
</tr>
<tr>
<td>8</td>
<td>Induction, Recursion, Recurrence Relations</td>
</tr>
<tr>
<td>9-10</td>
<td>Counting</td>
</tr>
<tr>
<td>11-13</td>
<td>Graphs and Trees</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Student Outcomes</th>
<th>CLO1</th>
<th>CLO2</th>
<th>CLO3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(g) an ability to communicate effectively</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>(o) knowledge of discrete mathematics</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>