Department of Computer Engineering
Bilkent University

CS 353. DATABASE SYSTEMS
Fall 2017

Classes
- Section 1: Wednesday 9:40; Friday 10:40, 11:40 (B204)
- Section 2: Wednesday 13:40, 14:40; Friday 15:40 (EE05)

Course Web Page

Instructor
- Section 1: Özgür Ulusoy (oulusoy@cs.bilkent.edu.tr)
  Office hours: Wednesday 13:40 -- 15:30 (G17)
- Section 2: Hamdi Dibeklioğlu (dibeklioglu@cs.bilkent.edu.tr)
  Office hours: Thursday 13:40 -- 15:30 (EA512)

Teaching Assistants
- Arif Usta, Mustafa Can Çavdar

Course Objectives
- Understand the concepts underlying the design and implementation of database systems.
- Establish a solid background in data management, with a focus on relational database management systems.
- Practice actual database design, implementation, and query formulation through a term project.

Course Outline
- Relational Data Model (Chapters 1, 2)
- Entity/Relationship Model (Chapter 7)
- Relational Algebra (Chapter 6)
- Structured Query Language, SQL (Chapters 3, 4, 5)
- Database Application Development (Chapter 9)
- Relational Database Design (Chapter 8)
- File Organization (Chapter 10)
- Tree-Structured Indexing (Chapter 11)
- Hash-Based Indexing (Chapter 11)
- Query Processing (Chapter 12)
- Query Optimization (Chapter 13)
- Overview of Transaction Management (Chapter 14)

Typical Grading
- Midterm: 30%
- Final: 35%
- Project: 20%
- Homeworks & Attendance: 15%
## Text and References

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Required</td>
<td>Textbook</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Database System Concepts, 6th edition</td>
<td>A. Silberschatz; H. Korth; S. Sudarshan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>McGraw-Hill</td>
</tr>
<tr>
<td>2)</td>
<td>Recommended</td>
<td>Textbook</td>
<td>2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Database Management Systems, 3rd Edition</td>
<td>R. Ramakrishnan, J. Gehrke</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>McGraw-Hill</td>
</tr>
<tr>
<td>3)</td>
<td>Recommended</td>
<td>Textbook</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prentice Hall</td>
</tr>
<tr>
<td>4)</td>
<td>Recommended</td>
<td>Textbook</td>
<td>2004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An Introduction to Database Systems, 8th Edition</td>
<td>C.J. Date</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Addison-Wesley</td>
</tr>
<tr>
<td>5)</td>
<td>Recommended</td>
<td>Textbook</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Addison-Wesley</td>
</tr>
</tbody>
</table>

## Minimum Requirements to Qualify for the Final Exam

In order to qualify for the Final Exam, the Midterm Exam grade must be at least 30 out of 100.