Department of Computer Engineering  
Bilkent University  

CS 353. DATABASE SYSTEMS  
Spring 2017  

Classes  
- Section 1: Tuesday 10:40, 11:40; Friday 9:40  
  (EE214)  
- Section 2: Wednesday 9:40; Friday 10:40, 11:40  
  (EE214)  

Course Web Page  

Instructor  
- Sections 1, 2: Öğr. Üz. Özgür Ulusoy (oulusoy@cs.bilkent.edu.tr)  
  Office hours: Wednesday 13:40 -- 15:30 (EA402)  

Teaching Assistants  
- Arif Usta, Mustafa Can Çağdar, Fouad Amira  

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

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<tr>
<th></th>
<th>Required</th>
<th>Textbook</th>
<th>Year</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>4</td>
<td>Recommended</td>
<td>Textbook</td>
<td>2004</td>
<td>An Introduction to Database Systems, 8th Edition</td>
<td>C.J. Date</td>
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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.