Prerequisite: CS 236.

- Lecture Notes for CS 452.

Learning Outcomes:
- Know the differences between logical and physical DB design
- Understand the relational database design methodologies and design issues
- Manipulate data in a RDBMS using retrieval, update, aggregation, constraint specification, and recursion commands in SQL
- Be familiar with query processing, query optimization, and query transformation strategies

Grading: The final grade will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Projects</td>
<td>25%</td>
</tr>
<tr>
<td>Midterm Exams</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
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</tbody>
</table>

Final letter grades will be given according to University Policies as shown below.

A: 93-100%     A-: 90-92%
B+: 87-89%      B: 84-86%
B-: 80-83%      C+: 77-79%
C: 74-76%       C-: 70-73%
D+: 67-69%      D: 64-66%
D-: 60-63%      E: Below 60%

Policy:

**Homework & project assignments.** Assignments will be given approximately every week and are due at the beginning of the class lecture on the due date. Late homework assignments will not be accepted; however, you are allowed to drop one of your lowest homework scores. Project assignments can be turned in late with penalty: 5% off on the first late day, 10% off on the second late day, 15% off on the third late day, and 20% off till the due date of the next project assignment, except the last project assignment that is accepted till the last day of school. (All the days are school days.)

**Midterm exams.** There will be two midterm exams. Everyone must take the midterm exams at the testing center on the scheduled dates. The exams, same as the final, are closed book and notes.

**Final exam.** The final exam will be comprehensive, but will be weighted towards the chapters covered after the midterm exams. The final will be given in class on the scheduled final exam date.