CSC/CPE 365: Introduction To Database Systems  
Spring 2024  
Course Syllabus

March 31, 2024

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office: 14-212

<table>
<thead>
<tr>
<th>What</th>
<th>Section 07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>TR 12:10 – 1:30pm</td>
</tr>
<tr>
<td>Lab</td>
<td>TR 1:40 – 3:00pm</td>
</tr>
</tbody>
</table>

Office Hours

<table>
<thead>
<tr>
<th>When</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 10:10 - 11:00am</td>
<td>14-212</td>
</tr>
<tr>
<td>Tuesday 10:10 - 11:00am</td>
<td>14-212</td>
</tr>
<tr>
<td>Wednesday 10:10am - 12:00pm</td>
<td>14-212</td>
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Note: these are tentative, and are subject to change.  
Additional appointments can be scheduled by emailing the instructor at dekhtyar@calpoly.edu.

Overview

This is an introductory database course devoted to study of the principles of operation of modern relational database systems. During the course the students will learn the basic concepts of data management, the principles of operation of relational DBMS (Database Management Systems) and the principles of building database applications on top of relational DBMS. The students will study the SQL query language for relational data, and will learn how to use it to construct software that relies on DBMS to manage its data. In addition, some theoretical aspects of database management will be covered, as well as an overview of the internal organization of the DBMS. Course labs will use Oracle DBMS.

Textbook


*You can replace it with this book:*


(The latter book comprises the first half of the former. It is sufficient for the CSC 365 purposes. However, ”The Complete Book” is also our textbook for other database courses).

Topics

The following will be covered in the course.
<table>
<thead>
<tr>
<th>No.</th>
<th>Topic</th>
<th>Duration (weeks)</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introduction: Data and Data Management</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Relational Model</td>
<td>1</td>
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<tr>
<td>3.</td>
<td>Database Connectivity</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Relational Algebra</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>Midterm</td>
<td>Topics 1 – 3</td>
</tr>
<tr>
<td>6.</td>
<td>SQL</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Overview of query processing and DBMS architecture</td>
<td>1</td>
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</tbody>
</table>

**Final Exam**

Most of the topics will be covered in the order specified above, but some variations are possible during the course.

### Grading

- **Homeworks** 0–5%
- **Labs** 40 – 50%
- **Midterm Exam** 40-50%

### Course Policies

#### Exams

The course will have two midterm exams and no final exam. There will be a final assignment due Finals week in lieu of a final exam.

Midterm 1 will take place some time during week 6 of the quarter (May 7 or May 9) and will be 1.5 hours long.

Midterm 2 will take place on the last day of the class: Thursday, June 6, 12:10-3:00pm. This will be a comprehensive exam.

Make-up exams will not be given, unless there are extraordinary circumstances present and I am notified in advance (see COVID-19 section below). The policy regarding the use of textbooks and notes will be announced at least one week prior to each exam.

If you miss the first midterm, you will be offered an option of having the second exam count for both (the second exam is comprehensive). If you miss one or both exams due to a documented allowed excuse, you may also be offered an option of taking an Incomplete grade, and completing the exams during the next quarters (I will be teaching CSC 365 each quarter next academic year).

#### Homeworks, Labs

The course has 7-9 lab assignments, designed to let you test in practice what we have learned in class. Each lab assignment spans multiple lab sessions. Most assignments have a one-week span. The final lab may have a longer duration. You are welcome to work on the lab assignments outside the lab hours, however, lab period attendance is highly encouraged. Most lab assignments are individual work.

In addition to labs, a number of paper-and-pencil homeworks will be assigned. Homeworks will typically consist of problems taken from database textbooks, or similarly styled problems. The main purpose of the homeworks is to prepare you for the written exams. As such, homeworks are not graded (you get credit for submitted completed homework).

#### LabThreeSixFive

In this course we will both work directly with a MySQL server and will use labthreesixfive.com, a CSC 365-specific SQL assignment management tool built by Professor Andrew Migler and used extensively in teaching of CSC 365. You all will be granted accounts on labthreesixfive.com. Labs 4-8 (SQL labs) will be made available in Lab 365 for you to work on.

You will receive access credentials to Lab 365 during the second week of classes.
Late Submissions
All assignments are due on the specified date by the specified time: homeworks - at the beginning of the class (with grace period extending to the beginning of the lab period); lab assignments, by the specific lab assignment deadline. Any deviations from these rules will be spelled out explicitly in the assignments.

Homework/lab assignments submitted later than indicated above will be considered late submissions.

If paper-and-pencil homework solutions are distributed on the due date of the homework, late homework submissions will not be accepted. Otherwise, late homeworks can be submitted during next 24 hours for a 10-30% penalty (the exact amount will depend on the submission time and the specific circumstances). No homework submissions will be accepted afterwards.

Late lab assignment submissions can be turned in before or at the beginning of the next lab period for a 10-30% penalty (the exact amount will depend on the submission time and the specific circumstances). No lab assignment submissions will be accepted after that.

Communication
Slack. We will have a slack workspace for this class. My experience with communication over Slack vs. communication via email suggests that Slack is a better medium. I will use the Slack workspace to post relevant course-related information, respond to your questions and broadcast any relevant course information to you.

I encourage both public and private messages on Slack and make every effort to respond to them expediently.

I encourage questions during classtime and questions via email and Slack. My answers to email/Slack questions may be broadcast to the entire class via the mailing list or over Slack, if the answer may be relevant to everyone (e.g. a correction in a text of a handout, or a clarification of a homework problem), and may also appear on the web page.

It is your responsibility to read your class-related email and to watch the course Slack workspace for announcements. Failure to read email/follow Slack workspace cannot be used as an excuse in the course.

Web Page
Class web page can be found at

http://www.csc.calpoly.edu/~dekhtyar/365-Spring2024

Through this page you will be able to access all class handouts including homeworks, project information and lecture notes (should the latter be written).

Links to web pages with additional information and important notes and announcements will also be posted.

Academic Integrity
University Policies
Cal Poly’s Academic Integrity policies are found at

http://www.academicprograms.calpoly.edu/academicpolicies/Cheating.htm

In particular, these policies define cheating as (684.1)

“...obtaining or attempting to obtain, or aiding another to obtain credit for work, or any improvement in evaluation of performance, by any dishonest or deceptive means. Cheating includes, but is not limited to: lying; copying from another’s test or examination; discussion of answers or questions on an examination or test, unless such discussion is specifically authorized by the instructor; taking or receiving copies of an exam without the permission of the instructor; using or displaying notes, "cheat sheets," or other information devices inappropriate to the prescribed test conditions; allowing someone other than the officially enrolled student to represent same.”

Plagiarism, per University policies is defined as (684.3)

“... the act of using the ideas or work of another person or persons as if they were one’s own without giving proper credit to the source. Such an act is not plagiarism if it is ascertained that the ideas were arrived through independent reasoning or logic or where the thought or idea is common knowledge. Acknowledgment of an original author or source must be made through appropriate references; i.e., quotation marks, footnotes, or commentary.”

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1 The penalty will be larger if the gap between the two lab periods includes a weekend, and smaller otherwise.
University policies state (684.2): “Cheating requires an “F” course grade and further attendance in the course is prohibited.” (appeal process is also outlined, see the web site above for details.). Plagiarism, per university policies (684.4) can be treated as a form of cheating, although a level of discretion is given to the instructor, allowing the instructor to determine the causes of plagiarism and effect other means of remedy. It is the obligation of the instructor to inform the student that a penalty is being assessed in such cases.

Course Policies

All homeworks are to be completed by each student individually. Lab assignments are to be completed by the appropriate units (individual, pair, group), and no code/solution-sharing between units is permitted. Students are encouraged to discuss class content among themselves but NOT in a manner that constitutes plagiarism and cheating as defined above (e.g., you can solve together a problem from the textbook that had not been assigned in the homework, but you should solve assigned problems individually).