

CSC/CPE 365: Introduction To Database Systems

Spring 2016

Course Syllabus

March 23, 2016

Instructor:	Eriq Augustine
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office:	14-240

What	Section 09		
Lecture	TR	1:40 – 3:00pm	14-302
Lab	TR	3:10 – 4:30pm	14-302

Office Hours

	When	Where
Thursday	10:30am - 1:30pm	14-240

Additional appointments can be scheduled by emailing the instructor at eaugusti@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 a branch of the MySQL DBMS.

Textbook

Recommended:

Database Systems: The Complete Book. H. Garcia-Molina, J.D. Ullman, J. Widom, 2009, 2nd Edition, Prentice Hall.

You can replace it with this book:

A First Course in Database Systems, J.D. Ullman, J. Widom, 2007, 3rd Edition, Prentice Hall.

(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.

No.	Topic	Duration (weeks)
1.	Introduction: Data and Data Management	0.5
2.	Relational Model	0.5
3.	Relational Algebra	2
4.	SQL	3
Midterm		Topics 1 – 4.
5	JDBC	1
6.	Security	1
7.	Stored Procedures	1
8.	Overview of query processing and DBMS architecture	1
Final Exam		Comprehensive

Most of the topics will be covered in the order specified above, but some variations are possible during the course. The exact schedule can be viewed on the course website.

Grading

Homeworks	5%
Labs	50%
Midterm Exam	15%
Final Project	10%
Final Exam	20%

I give relatively hard problems and am pretty strict grade-wise. Because of this, expect a 5 – 15% curve.

Course Policies

Exams

There will be a midterm exam and a final exam in the course.

The tentative date for the midterm is *May 3 (Tuesday)*.

The final exam time is *June 9 (Thursday)*.

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

Homeworks, Labs

The course will have 8 – 9 lab assignments, designed to let you test in practice what we have learned in class. Unless explicitly stated otherwise, the policy for labs is as follows. All labs, except the final lab, will span about one week. Labs will be assigned in class during the week, and will be due on 11:59pm the following week.

Lab attendance is not required, but is strongly recommended. During lab I may make announcements, pass out handouts, or give additional instruction. You are welcome to work on the lab assignments outside the lab hours. Some lab assignments can be done in pairs or groups, while others will be individual. Each lab assignment will state it explicitly.

Groups/pairings are to be formed by you - I will only intervene if someone cannot find a group/pair, or if there is a hard-to-resolve issue that requires my attention. You are welcome to stay in the same group/pair

for multiple lab assignments, or form a new group/pair for each non-individual assignment. All members of a group will receive the same grade for the assignment.

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.

Late Submissions

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

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 circumstances¹). No lab assignment submissions will be accepted after that.

Communication

You are encouraged to interact with your fellow students in lab and through our class Poly Learn.

I encourage questions during class time and via email. My answers to email questions may be broadcast to the entire class via the mailing list, 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. Failure to read email cannot be used as an excuse in this class.

Web Page

The class web page can be found at

<http://users.csc.calpoly.edu/~eaugusti>

Through this page you will be able to access all class handouts including homeworks, project information, and lecture notes/logs (should the latter be written). The class schedule will be posted on the web page. Links to web pages with additional information and important notes and announcements may 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)

¹The penalty will be larger if the gap between the two lab periods includes a weekend and smaller otherwise

“... 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. Acknowledgement of an original author or source must be made through appropriate references; i.e., quotation marks, footnotes, or commentary.”

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).