

CS 510 Data Base Management
MSCS Program Summer 2012 Syllabus
Computer Science Department, California Lutheran University

Jan 1, 2012 draft

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Class Hours: T 6:00-9:30PM

Class Room: D14

Office hours: M 5-6PM

Textbooks: Database Systems: An application oriented approach. Second edition. Kifer, Bernstein, & Lewis. ISBN 0-321-26845-8

Reference SQL book

Oracle SQL and PL/SQL Handbook. Palinski. Addison-Wesley. ISBN:0-201-75294-8.

Prerequisites: CSC410 : Database Management Systems

Course Description:

The primary objective of this course is to introduce database issues in multi-user environment and new directions in the field. Database concurrency control, recovery, query processing, query optimization, enterprise data, distributed databases and object oriented databases will be surveyed. In addition, the latest developments in the database technology such as OLAP, and data warehousing are introduced.

Course Goals/Objectives: . Upon completion of this course, you should be able to:

1. Understand fundamentals concept of database administration such as concurrency control and query optimization.
2. Create Object Oriented data modeling
3. Design distributed database and understand issued in distributed database systems
4. Understand differences between OODBMS and ORDBMS
5. Implement relational database using Oracle
6. Utilize object relational database in Oracle
7. Design and create OLAP using Oracle.
8. Understand issues in dealing with large scale database.

Computer Requirement: students may use Oracle server account provided by the department. However, the Oracle server account can not be accessed from outside CLU. If you wish to have Oracle installed in your own computer, you must have your own computer which meets Oracle 11g software hardware requirement from the Oracle web site. **Either you should be able to come to D13 lab outside class time or you must provide your own computer for this course.**

Course Schedule

Date	Lecture Readings	Homework & Oracle project work <i>(Out date is shown) HW due date: 1 wk after</i>
class 1 (5/22)	Introduction. Ch5: relational algebra and SQL	
Lab 1 (May 26, Sat) 9AM -4PM	Oracle and Oracle SQL Developer installation and Introduction.	
class 2 (5/29)	Ch9: physical data organization & indexing	Proj 1: SQL(Due: Dec 12) HW1:
Class 3 (6/5)	Ch10: The basics of query processing Ch11: an overview of query optimization	HW2:
Class 4 (6/12)	Ch14: object database	Proj2:ORDBMS (due: Jan 16)
Class 5 (6/19)	Ch14: object database guest speaker “object database and cloud database”??	HW3:
Class 6 (6/26)	midterm	
Lab 2 (6/30, Sat) 9AM-4PM	Oracle PL/SQL	
Class 7 (7/3)	Ch17: OLAP and data mining	Proj3: OLAP(due:1/30)
Class 8 (7/10)	Ch16: distributed databases Guest speaker “design and building db in agile environment”??	HW4:
Class 9 (7/17)	Ch20 Implementing Isolation Comm ACM June 2011 articles.	
Class 10 (7/24)	Comm ACM June 2011 articles. Review for final exam	
Class 11 (7/31)	Final Exam	

Communications of ACM June 2011 papers

- “if you have too much data, then good enough is good enough.” Pat Helland.
- “Scalable SQL.” Michael Rye.
- “10 Rules for scalable Performance in simple operation datastore.” M.Stonebraker & R. Cattell.
- “Dremel: Interactive Analysis of Web-Scale Datasets.” S. Melnik et al.

Grading

Midterm Exam	250pt
Final Exam	250pt
HW	160pt
Projects	300pt
<u>Participation/Deportation</u>	<u>40pt</u>
Total	1000pt

Grade distribution

grade	A	A-	B+	B	B-	C+	C	C-	D
cut-off	93%	90%	87%	83%	80%	77%	73%	70%	50%

Class conduct guidelines

- For late assignments/projects. With a valid reason, I will accept late exercise without penalty. Otherwise a late exercise carries 10% of its total point value for each calendar day.
- Collaboration and discussion is encouraged, but the work itself should be done independently unless it is a group work.
- Exams: You are expected to take exams during the regular class period on the dates scheduled. Exceptions to this policy will be allowed if you have a documented medical excuses and only if you make arrangements with me before the scheduled exam period.

***** CLU STATEMENTS *****

Course Evaluations Statement:

All course evaluations are conducted online. Your feedback is important to us. You will receive an email message reminding you when the website is open for your feedback. The link is: <http://courseval.callutheran.edu>

Disability Statement:

California Lutheran University is committed to providing reasonable accommodations in compliance with ADA of 1990 and Section 504 of the Rehabilitation Act of 1973 to students with documented disabilities. If you are a student requesting accommodations for this course, please contact your professor at the beginning of the semester and register with the Accessibility Resource Coordinator, Wendy Perkins, for the facilitation and verification of

need. The Accessibility Resource Coordinator is located in the Center for Academic and Accessibility Resources (CAAR) Office in the Pederson Administration building, and can be contacted by calling 805.493.3878 or emailing wperkins@callutheran.edu

Statement on Academic Honesty:

The educational programs of California Lutheran University are designed and dedicated to achieve academic excellence, honesty and integrity at every level of student life. Part of CLU's dedication to academic excellence is our commitment to academic honesty. Students, faculty, staff and administration share the responsibility for maintaining high levels of scholarship on campus. Any behavior or act which might be defined as "deceitful" or "dishonest" will meet with appropriate disciplinary sanctions, including dismissal from the University, suspension, grade F in a course or various forms of academic probation. Policies and procedures regarding academic honesty are contained in the faculty and student handbooks.

Plagiarism, cheating, unethical computer use and facilitation of academic dishonest are examples of behavior which will result in disciplinary sanctions. Plagiarism includes, but is not limited to:

- word for word copying without using quotation marks or presenting the work as yours
- using the ideas or work of others without acknowledgement
- not citing quoted material. Students must cite sources for any information that is not either the result of original research or common knowledge.

Pearson Library

At Cal Lutheran we won't tell you what to think — we'll teach you how to think. You'll learn how to gather information, analyze and synthesize. Don't worry about the "gathering" ... that's the easy part. We have technicians, information specialists, and trainers to help you find the information you need. Pearson Library provides access to scholarly books, journals, ebooks, and databases of full text articles from scholarly journals. To begin using these materials, visit the library web page <http://www.callutheran.edu/iss/research/> . Librarians are available to assist you at the Thousand Oaks campus or via Meebo chat on the Library's home page or emailing CLULibrary@callutheran.edu. You may contact the library at (805) 493-3250. If you attend classes at one of CLU's satellite locations, see <http://www.callutheran.edu/iss/research/satellite.php> for the full range of services provided.

CLU Writing Center

Experienced Writing Center tutors help CLU's undergraduate and graduate students with their writing projects: reading free writes to find the best ideas; refining thesis statements; showing students how to structure paragraphs; and using specific exercises to improve sentence syntax. They work with whole classes as well as with individual students on the style guidelines required for papers in the various disciplines.

All enrolled CLU students are invited to make use of our services. For additional information, please visit http://www.callutheran.edu/writing_center/ , call 805-493-3257, [book online at GenBook](#), or stop by the Writing Center (The Darling Collaboration Suite in the library) to schedule an appointment.