

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

July 15, 2011

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**Class Hours:** M 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, optimization and 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. Being familiar with databases journal /research paper.
9. Build foundation for further research in database potentially as a master's degree project.

## Course Schedule

Date	Lecture Readings	Homework & Oracle project work ( <i>Out date is shown</i> ) <i>HW due date: 1 wk after</i>
Week 1 (11/21)	Introduction. Ch5: relational algebra and SQL	Proj 1: SQL
Week 2 (11/28)	Ch9: physical data organization & indexing	HW1:
Week 3 (12/5)	Ch10: The basics of query processing Ch 14 object database	HW2: Proj2:ORDBMS (due: Jan 2)
Week 4 (12/12)	Ch14: object database	
Week 5 (1/2)	Object database guest speaker Ch11: an overview of query optimization	HW3:
Week 6 <b>(1/9)</b>	<b>midterm</b>	
Week 7 (1/16)	Ch12: database tuning Ch17: OLAP and data mining	Proj3: OLAP(due:1/30)
Week 8 (1/23)	Ch16: distributed databases	
Week 9 (1/30)	Ch18: ACID properties of Transactions (Ch19: models of transactions? Ch22: Atomicity and Durability?)	HW4:
Week 10 (2/6)	Comm ACM June 2011 articles. If you have too much data, then good enough is good enough. Scalable SQL. 10 rules for scalable performance in simple operations data stores. Review for final exam	
Week 11 (2/130)	<b>Final Exam</b>	

### Grading

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

### Grade distribution

<b>grade</b>	<b>A</b>	<b>A-</b>	<b>B+</b>	<b>B</b>	<b>B-</b>	<b>C+</b>	<b>C</b>	<b>C-</b>	<b>D</b>
<b>cut-off</b>	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](mailto: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](mailto: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/](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.