

California Lutheran University

Bachelor's Degree for Professionals

CSC 410 Foundations of Database Management Systems Fall Term 2016

Instructor Information	Name	Dr. Graham Matthews
	Office	D19
	Office Hours	By Appointment: face to face or electronically.
	E-mail	gmatthew@callutheran.edu
Text		A First Course in Database Systems 3rd Edition Jeffrey D. Ullman and Jennifer Widom ISBN-10: 013600637X ISBN-13: 978-0136006374
Class meetings		Monday nights (6-9:30PM) Fall term meetings: Aug 29 to Nov 14. Room: D Building, Room 14
Drop Dates		Sep 12: Last day to drop (without a "W" or financial penalty) Oct 10: Last day to withdraw without academic penalty

COURSE DESCRIPTION

Studies the concepts and structures necessary to design and operate a database management system. Topics include data modeling, relational database design, and database querying.

Prerequisites: CSC 210, MATH 241.

TECHNOLOGY REQUIREMENTS:

- CLU utilizes Blackboard to enhance course learning and achieve the designated student learning outcomes. Technology requirements for the Blackboard system can be found at the following website: <http://www.callutheran.edu/ctl/Blackboard.php>.
- We will utilize **Apache Derby** for SQL programming.

STUDENT LEARNING OBJECTIVES

Databases are ubiquitous in computing, storing everything from web click counts, to company financial information, to biological sequence data. The predominant database technology in use today is the relational database. Relational databases have a well defined mathematical underpinning in the relational algebra, and come equipped with the somewhat standardized query language SQL. The objective of this course is to introduce the student to most aspects of defining, using, and optimizing both relational databases and SQL queries.

Upon completion of this course, the student should be able to:

- Program SQL queries.
- Understand the mathematical underpinnings of relational databases.
- Define and populate a relational database.
- Connect to and query a relational database from Java.
- Use entity-relationship diagrams for database design.
- Understand how to optimize SQL queries.
- Understand how a relational database organizes records for query efficiency.

This course advances many of the following Student Learning Outcomes:

- Ethical and Professional Judgment
- Interpersonal & Teamwork Skills, Principled Leadership
- Information Literacy and Computer Skills
- Creative and Critical Thinking
- Field-specific Knowledge and Experience
- Planning and Organization

- Creation of Value
- Quantitative Literacy
- Cross cultural Competency
- Written Communication
- Oral Communication and Listening Skills
- Evaluation

DIDACTIC APPROACH:

This course rests on several components – self-study, lectures, interaction, as well as practice and application:

- Self-Study
 - Preparation in self-study by students before lecture to become familiar with new material and to stimulate thinking, generate ideas and questions.
- Lecture
 - Presentation of topics in class by instructor.
- Student-Instructor Interaction
 - Asynchronous, instructor-facilitated discussion of relevant topics on discussion boards.
 - Direct interaction between student and instructor.
- Practice and Application
 - Preparation of assignments by students before class.
 - Participation in discussion boards.
 - Deepening of concepts in discussion.

ASSESSMENT

Assessment in this course is based on multiple elements. Each form of assessment addresses different (sometimes multiple) learning outcomes and each form of assessment requires a different set of knowledge, skills and abilities:

Attendance and Participation: Students are expected to attend every class and be on -time for class. If you will be unable to attend a class, notify me as soon as possible (and recognize that it is your responsibility to get any class notes/materials from a classmate). Attendance will be taken at each class and makeup time will be addressed on an individual basis.

Assessment: Following is an overview of the various forms of assessment:

Assessment	Weight
Discussion Boards	10%
Weekly Homework	40%
MidTerm Test	20%
Final	30%

Weekly Homework: There will be individual weekly assignments designed to reinforce the material taught in class. They will be mix Java programming with theoretical problems.

Discussion Boards: To complement and reinforce class discussions, each student is required to participate in the online discussion forum on Blackboard. Each student needs to contribute to such discussions in order to obtain full participation credit. Discussion boards will revolve around a question posed by the instructor to which students must reply and comment. Students must also comment on other students' discussions, and on feedback and questions provided by the instructor.

Tests and Exams: This course will consist of one individual mid-term test and one final exam. Tests/exams must be taken at the scheduled time unless you have a valid reason (such as a documented illness) to request the rescheduling of a test. Personal reasons are not deemed valid to request taking the test on a different date. It is up to the instructor to assess whether a reason is sufficiently valid to merit rescheduling a test. If you plan to request a test date change, you must contact me before the scheduled test date or as soon as you become aware of the fact you may have a conflict with the scheduled test date.

GRADING

Grading in this class will be based on the following elements and the grading scale provided below:

Percentage	Grade
>94%	A
90% to 93%	A-
87% to 89%	B+
84% to 86%	B
80% to 83%	B-
77% to 79%	C+
74% to 76%	C
70% to 73%	C-
67% to 69%	D+
64% to 66%	D
60% to 63%	D-
<60%	F

ASSESSMENTS AND LEARNING OUTCOMES:

The following table provides information on how various forms of assessment contribute to the student learning outcomes as outlined earlier in this syllabus.

Assessment	Student Learning Outcomes											
	1	2	3	4	5	6	7	8	9	10	11	12
Weekly Homework		x	x	x	x	x		x				x
Discussion Boards			x	x	x			x				x
Test			x		x							
Exam			x		x							

OVERVIEW OF TOPICS AND SCHEDULE OF TOPICS AND ACTIVITIES

Wk	Class Topic
1	Relational Databases and The Relational Model
2	SQL
3	SQL
4	SQL
5	SQL
6	Midterm Exam
7	The Relational Algebra
8	Physical Data Storage

9	SQL data retrieval
10	SQL data retrieval
11	Final Exam

STUDENT WORKLOAD FOR THIS COURSE

Activity	Instructor-Led		Independent		Remarks
	Weekly	Course	Weekly	Course	
Lecture	3.5	38.5			
Readings			3	33	3 hours * 11 weeks = 33 hours
Assignments			6	60	6 hours * 10 weeks = 60 hours
Consultation with instructor			0.5	5	
Exam Preparations				25	
Discussion Boards	1.5	15			1.5 hours * 10 weeks = 15 hours
Total		53.5		123	

** In this chart the Carnegie Instructional Hours have already been converted to traditional clock hours; these are based on a 60-minute clock hour.

COURSE POLICIES

- **Cell phones:** Out of consideration for others, please turn your cell phone and pagers to the silent mode. If they do not have a silent or vibratory mode, please turn them off. No texting is allowed while class is in session. These items tend to distract the other students when they ring during class discussions or learning team activities.
- **Use of other electronic devices including laptops/iPads/etc:** While IT is so pervasive today in the form of many different electronic devices, if used for purposes other than class activities, such devices are disruptive to learning. If inappropriate behavior with regard to these devices is detected, the student may be asked to leave class.
- **Assignment due dates:** All assignments are due by the respective due date. No late assignments are permitted unless the student(s) had an exceptional circumstances.
- **Academic Honesty:** Intellectual property rights are to be respected at all times, with appropriate recognition/reference given to informational sources. Plagiarism occurs whenever a source of any kind has not been acknowledged. Every student must understand the correct procedures for acknowledging and identifying sources of borrowed material. If you include any material which is beyond your first hand experience, and which is not

common knowledge of scholars in your field, you must cite your source in a way that your reader can [a] find the source from the information in your reference and [b] immediately determine which information of your source's contribution to scholarship and which is yours.

COURSE EVALUATIONS

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>

ACADEMIC INTEGRITY

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.

Standards of Student Conduct Statements:

- [Student Life Handbook](#)
- [Academic Honesty Statement](#)

PEARSON LIBRARY

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/library>

There are many ways to contact Pearson Library for research assistance, no matter where you are!

- Email Yvonne Wilber (Professionals liaison) at ywilber@callutheran.edu
- General Library email: CLUlibrary@callutheran.edu
- Library main phone: 805.493.3250
- Text us your question: 805.493.3867
- Get more help at: <http://www.callutheran.edu/library/help/>

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CLU WRITING CENTER

The Writing Center provides 1:1 writing consultations, in-person and online, with trained undergraduate and graduate writing consultants. We welcome all writing-related projects at any stage of the writing process across the diverse disciplines of study at CLU. The Writing Center also hosts writing workshops, provides in-class visits, facilitates writing groups, and offers a writer's studio option for longer, sustained projects. Services suit writers of all levels, including traditional undergraduates, graduate students from all fields, all English language learners, and accomplished scholars alike. All members of the CLU community with an @callutheran.edu email address are welcome to make use of our services. For more information, please visit at www.callutheran.edu/writing_center or call 805-493-3257. Please schedule appointments online through MyCLU Blackboard with the yellow "The Writing Center" icon in "Tools," or stop by The Writing Center itself, located in the Darling Collaboration Suite of Pearson Library.

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 Disability Support Services Coordinator, Wendy Jimenez, for the facilitation and verification of need. The Disability Support Services Coordinator is located in the Center for Student Success Office at 3259 Pioneer Street, and can be contacted by calling 805.493.3878 or emailing wjimene@callutheran.edu

UNIVERSITY HARASSMENT POLICY

Be civil to each other, both on- and offline. For information on the University's **student harassment policy and rights**, please go to the following link: [Student Life Handbook](#)

SEXUAL MISCONDUCT

California Lutheran University does not tolerate any degree of sexual misconduct on or off-campus. We encourage you to report if you know of, or have been the victim of, sexual harassment, misconduct, and/or assault. If you report this to a faculty member, she or he must notify Cal Lutheran's Title IX Coordinator about the basic facts of the incident. More information about your options for reporting can be found at: <http://www.callutheran.edu/title-ix/>

VETERANS RESOURCES

If you are a veteran, military member, or a family member of a veteran or military member, please refer to Cal Lutheran's Veterans Resources webpage for important information: <http://www.callutheran.edu/veterans/> . Also, if you are a veteran receiving benefits and you are struggling in a class, you most likely qualify for free tutoring. Please contact the Veterans Coordinator, Jenn Zimmerman, veterans@callutheran.edu or 805.493.3648, for more information.

HELP DESK

Students may contact the Help Desk about telephone, network, wireless network, software questions password problems, hardware problems, and general consultation (i.e. you cannot log into your MyCLU portal, or you are having problems with Blackboard). Please email specific details about your problems to helpdesk@callutheran.edu, click on the following link for more information http://www.callutheran.edu/iss/technology_services/helpdesk.php or call: 805.493.3698

DISCLAIMER

This syllabus may change from time to time to accommodate changing circumstances. Every effort will be made to alert students to changes that occur in a timely manner.