CS 230 Intermediate Database
Lower Columbia College

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The mission of Lower Columbia College is to ensure each learner's personal and professional success, and influence lives in ways that are local, global, traditional, and innovative.

Course Purpose/Objectives:

Offers further study and use of computerized database management systems. This course provides intermediate theory and practice in a disciplined approach to problem solving using a database management system in a business environment.

Information is presented through demonstration, discussion, and through hands-on use of the computer. You will be able to do some of the computer work at home if you have the appropriate software. I will attempt to provide as much free software for class use at home as possible. It will be necessary for you to use the school computers to complete some of the work, or all if you do not have an appropriate home computing environment.

Prerequisite:

Completion of CS130 is required to take this course. If you earned a grade of C or less in CS130 plan on spending extra time as you may not have mastery of the basic skills for this course.

Text/Materials:

Text: **DATABASE SYSTEMS,** ROB ISBN:9780538469685
Software: Up-to-date browser software and Windows must be installed on your computer if you choose to do some work at home, however this is optional. Problems with computers or networks outside LCC **are not** a valid reason for not completing work.
Other: Additional handouts or readings will be required. Instructor will provide information on obtaining this material.

Course Objectives:

The following is a list of outcomes that each student must demonstrate in order to successfully complete this course. As an intermediate level course in database development students are expected to show reproducible understanding of concepts and skills in varied database environment situations.

The student will be able to:

- Identify, describe, and give examples of Integrity paradigms
- Describe a database system and its components
- Describe Database security levels and issues
- Identify and describe performance issues with Databases
- Define and identify DB models
- Design and implement a Database using ER Modeling
- Design and implement SQL procedures including:
    - Define and Create tables
    - Remove tables
    - Fill tables with data
    - Joins including left, right, outer, inner
    - Design and implement queries to answer theme DB questions

Teaching Methods:

1. Internet: All material will be distributed on the Internet. Class notes, instructional material, and student assignments will be posted on 'the net' in a class website. Students are encouraged to go to the book website http://www.wadsworth.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9780538469685&token=FDB49143CB80604B6EFAAC9124353094C1F3456649D2AB1083257BA5E00E027C062B3CA9DBACE3C3FC315B5E4678590D in order to obtain file downloads and view other items of interest throughout the semester.
2. Combination of Discussion, activity, Lab, Angel will be used to teach this course.
3. Each week you can expect a quiz over the reading material assigned for that day.
4. Tests will occur approximately every three weeks; a schedule will be forwarded when finalized.
5. Assignments include a variety of types including readings, group, formal investigation, lab assignments. In order to foster good work skills some projects may be group. Grading criteria for group will be provided at assignment time. Individual assignments are just that, individual. All clarification of expectations should be directed at instructor and all work completed should be yours. Be careful of using proper citation on all work turned in so as to avoid plagiarism. I do check all work for plagiarism.

Student Success:

Attending all class times is a critical part of being successful in any college class. Complete all work assigned and be sure you **fully understand** what you are reading from text, topics covered in presentations, and hands on lab work done. You can expect to need to complete 12 hours a week for this course to master in class and out of class learning requirements. This course is designed for each student to succeed, but the quality and level of learning is directly related to the effort put forth.

If you find you are having trouble with the requirements of this course, please see me immediately so we can discuss how to help you succeed to your fullest potential. At times it may take longer then intended to complete some components of this course for some students. If you need tutoring or more one on one help then I can provide in the time allowed, the tutoring center may be a resource available to you. Information can be found at the following web site: http://lcc.ctc.edu/programs/study_tables/. Or go to the tutoring center for information.

Having problems with your home computing environment or not planning appropriately to be able to complete work is not an excuse to turn work in late.

Grading:

Letter grades will be determined using a standard percentage point evaluation as outlined below. Grades may be curved after the total semester points have been tabulated. However, do not count on a curve to obtain your desired grade.

A 94-100%	C+ 77-79%
A- 90-93%	C 74-76%
B+ 87-89%	C- 70-73%
B 84-86%	D+ 67-69%
B- 80-83%	D 64-66%
	D 60-63%

Total points will be computed as follows. The total points for quizzes and assignments may vary.

Theory Quizzes	20%
Lab Work	60%
Project	20%

Course Policies:

Missed Classes: The student is responsible for obtaining material distributed on class days when he/she was absent. This can be done through contacting a classmate who was present or by contacting the instructor during office hours or through email. Missed or late quizzes can not be made up under any circumstances but with good cause and adequate notice, an early quiz may be given.

Lab Work/Projects: All assignments are due at the assigned time, on the date due. Late submission of assignments will be assessed a penalty of 25% per day. No exceptions are made. ***Absence from class or problems with a personal computer is not an excuse for not turning in work on time.***
Academic Dishonesty: Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper or project; failure in course; and College disciplinary action per policy. For more information refer to the "Academic Dishonesty" policy in the College Catalog.
Need for Assistance: If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it, or which will require academic accommodations, please notify me as soon as possible.
Calendar: Fall calendar for the College can be found at: http://lowercolumbia.edu/students/academics/academic-calendar/

Course Outline

Week	Topic	Text/Handout Reading	Assignment Due Date
1	Database Systems/Models/ and Access Review	**Chapter 1/2**	Access Table/Form/Report Review Assignment
		History of DB	Homogenous Sentences Assignment
2	Relational Modeling and Access Review	**Chapter 3**	
	Schema Descriptions	**Founder of ER Model**	http://www.course.com/downloads/mis/robcoronel/videos/DBMS/DBMS.html ER Diagram Assignment
3	ER Diagrams	**Chapter 4**	
			Relational Schema Assignment
4	Normalization/Table Definitions	**Chapter 5**	
			http://bit.csc.lsu.edu/~chen/ Join Paths Assignment
5			
	Data Definitions	**Chapter 6**	Normalization Assignment
6			
	SQL	**Chapter 7**	Data Definition Assignment
7	Table Creation		Implementation Assignment
	Changing Table Definitions		
8	Queries	**Chapter 8**	SQL Assignment 1
	Joins		
9		**Chapter 9**	SQL Assignment 2
10	Project		Project Due Finals Day
11			

Final December 8 8-10am

Skills Assignments

The following is a list of knowledge/skills that you will be required to demonstrate and be graded on. Grades will be based on how well you show understanding of concepts and implementation.

1. Schema Description
2. Entity Relationship Diagram
3. Normalization
4. Table Definition
5. Data Definition
6. SQL Statements
7. Database Implementation

1. Academic Integrity and Student Original Work (See Catalog for policies, especially *Policy on Acceptable Use of Computing Resources*, and *Policy on the Use of Material in Web Pages*.)

Each student is responsible for maintaining academic integrity and intellectual honesty in his or her academic work. It is the policy of the school that each student be academically honest, which means that each student must:

a. Submit his or her own work, not that of another person

b. Not falsify data

c. Not engage in cheating (giving or receiving help during examinations, acquiring and/or transmitting test questions prior to an in-class examination, or falsifying any records, including admissions material)

d. Not receive nor give aid on assigned work that requires independent effort

e. Properly credit the words or ideas of others according to accepted standards for professional publications (See, for example, *The Publication Manual of the American Psychological Association.*)

f. Not use term paper writing services or consult such services for the purpose of obtaining assistance in the preparation of materials to be submitted in courses

g. Not engage in plagiarism. *Webster's* defines plagiarism as "stealing or passing off ideas or words of another as one's own" and "the use of a created production without crediting the source." Extreme caution must be exercised by students involved in collaborative work to avoid questions of plagiarism.