Course: CS 3540  Database Administration
Instructor: Danny R Brown
Class Locations/Times:  Mon &Wed 5:30 - 7:20 PM (SLCC)
Phone:  801-550-1264
Email:  slodb@gmail.com

Course Prerequisites
- knowledge of relational theory, including normalization and referential integrity
- knowledge of basic SQL (both DML and DDL)
- knowledge of ER diagramming techniques and how to turn this into a database schema

If you've taken CS 2550 (Weber) or CIS 2600 (SLCC), these topics were covered - please come talk to me if you have not taken these courses, or if you have questions about the knowledge and skills listed above.

Course Description
This course covers advanced topics in the administration of databases and database management systems. As an advanced course, content is designed to extend students’ knowledge of fundamental database topics as well as introduce more advanced topics. The initial portion of the course focus on extending fundamental topics, such as conceptual modeling, the relational model, normalization and Structured Query Language. It is assumed that students have a basic understanding of these topics. Advanced topics include physical design topics such as record storage and index structures, as well as administration issues such as transaction management, security and recovery methods. The course includes both conceptual and hands-on components, with the hands-on portions designed to reinforce the conceptual material.

Course Delivery
Class will consist of a mix of lecture, student discussion, lab and homework related to the responsibilities and activities of the Database Administrator. Questions and comments during class time are encouraged (and participation will be graded). Database concepts will be illustrated in class using reading assignments and discussions. It is expected that students will have read the covered chapters prior to the class on the topic. The instructor will ask questions of the students to ensure that learning is taking place. Students will also learn how to install and administer databases through assigned exercises in the classroom.

Course Objectives
- Understand terms related to database design and administration
- Understand principles associated with conceptual data modeling
- Apply conceptual data modeling concepts to organizational data management problems
- Convert conceptual data models into normalized logical data models (schemas)
- Determine whether a schema meets the requirements for third-normal form
- Normalize schemas in order to satisfy the requirements of third-normal form
- Understand the concept of functional dependencies
- Understand the relational model
- Understand the rules for first, second and third-normal forms
- Understand broad issues related to data warehousing
- Understand the data warehouse development process
- Develop a dimensional data model to satisfy decision support and business intelligence requirements
- Perform data manipulation using SQL
- Perform complex data queries using SQL meeting stated requirements
- Understand factors that influence database performance
- Understand issues related to database concurrency
Describe various index structures including their advantages and disadvantages
Discuss issues related to database system architectures
Discuss issues related to database security and recovery
Discuss organizational issues related to information management

Course Policies

Accommodations
Students who have special needs or disabilities that may affect their ability to access information and/or material presented in this course are encouraged to contact Lee Ellen Stevens, Director of Disability Support Services (DSS), immediately, on campus at 957-4529 for additional disability-related educational accommodations. You are not required to disclose these disabilities to your instructor, but the instructor can only accommodate accommodation requests that officially come through the DSS.

Cell Phones
For obvious reasons, cell phones should be set to silent or vibrate during class. If you must take a phone call, please excuse yourself from the classroom.

Cheating / Plagiarism
I have a ZERO TOLERANCE policy on cheating/plagiarism, and violators will automatically fail my class. Weber State University requires that students be honest in their academic work. Academic dishonesty is viewed as an ethical issue and the violation of the principles expressed in the University’s Statement of Educational Mission. It defrauds all those who depend upon the integrity of the University, its courses, and its degrees. The term “cheating” is the act of obtaining or attempting to obtain, or helping in obtaining, credit for academic work through any dishonest, deceptive, or fraudulent means. It includes, but is not limited to:
1. Copying, in part or in whole, from another student’s test or other evaluation instrument; use of any unauthorized assistance in taking quizzes, tests, or examinations.
2. Submitting work previously presented in another course, unless specifically authorized by the course instructor.
3. Obtaining or giving aid, in writing or orally, on an examination, unless specifically authorized by the instructor.
4. Doing work for another student or having one’s work done by another person.
The term “plagiarism” is intentional or negligent presentation of another person’s idea or product as one’s own. It includes, but is not limited to:
1. Copying verbatim all or part of another person’s written work without proper citation or attribution.
2. Paraphrasing ideas, theories, cases, conclusions, or research without proper attribution.
3. Representing another person’s scholarly works, computer programs, case studies or artistic works as one’s own.

Class Notifications / Cancellations
For all official announcements regarding this class, or any cancellations of classes at WSU SLCC Campus, I will notify you via the class webpage. I strongly suggest that you check the announcements before class.

Complaining About Grades
If you feel the grade you received was not accurate, please meet with me after class or via email. All valid arguments will result in extra points. One of the most important things to realize with databases is it all depends on the specific situation.

Homework Due Dates
You are given plenty of notice to complete your homework and submit it by the posted deadline. Consequently, unless an extreme situation (death, sickness, etc) occurs, I will not accept any late assignments. All homework must be submitted via Web CT (http://online.weber.edu) by the deadline. If you encounter technical problems, you should e-mail your assignment to slcdba@gmail.com with a read receipt requested.

Software/Hardware Requirements
Oracle 11g for your home computer. Oracle can be downloaded from www.oracle.com. If you do not have a home computer, or cannot install these products (because of speed/memory) - let me know as soon as possible, as class lab time may not be enough to complete the assignments. The course will focus primarily on ORACLE.
Grading and Policies
Grading, Evaluation Policies and Procedures
Your grade will be based on individual assessment. All Percentages are subject to change. 60% of your final grade comes from homework, 30% from two exams, and 10% is from quizzes. There will be approximately 10 homework assignments. Both tests are comprehensive. They will cover anything we have mentioned in class, read in the book, or did homework on. There will be a number of quizzes. These cannot be made up if missed for any reason. All quiz questions will come from the chapters we cover in class. If you read the chapters and questions, you should have no problem getting all the points. The weekly quizzes are on Wednesday. All homework will be due on Wednesday (One week after it is assigned).
Grading Scale:

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Text

Textbooks and other supplies
This course has one required text plus various handouts and internet resources.

Database Administration, by Craig Mullins, Addison Wesley, 2002
ISBN: 0-201-74129-6
Retail Price: $49.99

Tentative Schedule

Week 1 - Chapters 1, 2, 3, 4.
Week 3 - Quiz. Chapter 7. Lab. Homework.
Week 4 - Quiz. Chapter 8. Lab. Homework.
Week 7 - Quiz. Chapters 10, 11 continued. Lab to finish homework.
Week 8 - Midterm Review. Midterm.
Week 9 - Chapter 12. Lab. Homework.
Week 15 - Quiz. Chapter 18, 19, 20.
Week 16 - Final review. Final.