UNIVERSITY OF NORTH CAROLINA AT GREENSBORO
DEPARTMENT OF COMPUTER SCIENCE

CSC 671: Advanced Database Systems
Spring 2015
SYLLABUS

Instructor: Fereidoon (Fred) Sadri
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by: Silberschatz, Korth, and Sudarshan
McGraw-Hill
Other Good Books:
Database Systems: The Complete Book; By: Garcia-Molina, Ullman, Widom; Prentice Hall
Database Management Systems; By: Ramakrishnan and Gehrke; McGraw-Hill

COURSE CONTENTS:

- Introduction.
- Relational databases.
- Query languages for relational databases: SQL, Relational Algebra.
- Database design: The Entity-Relationship (ER) model.
- Relational database design: Data dependencies and decomposition theory.
- Extensible Markup Language (XML), Document Type Definition (DTD), XML Schema.
- Query languages for XML: XPath, XQuery.
- Selected topics (time permitting) such as map/reduce, information integration, and modeling uncertain information.

STUDENT LEARNING OUTCOMES: At the end of this course students will be able to

- Use a commercial database system effectively (create tables, add and modify data, and query the database).
- Design a database system for a given application.
- Our project provides hands-on experience with database design and implementation, including database access through a web interface.

GRADING SCHEME:

Homeworks and presentations: 10%
Project: 15%
Test 1: 20%
Test 2: 25%
Test 3: 30%

TEST DATES:
Test 1: Thu Feb. 5, 2015.
(If UNCG is closed on Thu. Apr. 23, 2015 for any reason, Test 3 will be given on Thu. Apr. 30, 2015.)
ACADEMIC INTEGRITY POLICY: Students are expected to abide by the UNCG Academic Integrity Policy, which is online at http://academicintegrity.uncg.edu. Any infraction(s) will result in failure of the entire course and a final course grade of F. Students are required to sign the Academic Integrity Pledge on any work they do. The pledge is the statement “I have abided by the UNCG Academic Integrity Policy on this assignment.”

ATTENDANCE POLICY: Regular class attendance is a responsibility and a privilege of university education. It is fundamental to the orderly acquisition of knowledge. Students should recognize the advantages of regular class attendance, accept it as a personal responsibility, and apprise themselves of the consequences of poor attendance. Absences in excess of three lectures may result in being automatically dropped from the course.

ADDITIONAL NOTES:

- Closure of university facilities and classrooms in response to flu outbreak or other emergency does not mean that this class is halted. Students should check their emails and course web page for announcements about how the class will proceed in the event of such an emergency.
- The grade you will receive in this course is a function of your numerical marks in the assignments, project, tests AND the overall performance of all students in the course. The marks will be “normalized” to assess a student’s performance. A rough guideline is as follows: 90% to 100%, A; 80% to 89%, B; 70% to 79% C; below 70%, F.
- Students should be present for all tests. No make-up tests will be given.
- I often use email to communicate with you. I will only use your UNCG email addresses. Please make sure to check your messages regularly. If you normally use a different email address, it is your responsibility to forward your UNCG messages to that address.
- You are encouraged to seek information in other books or on the web. BUT you must cite the source if you use any material from other books or the web (for example, in your homework). Otherwise it is considered cheating.
- You are expected to attend other students presentations.
- Homeworks are due in class.
- A penalty of 20% (of the total homework mark) per day will be levied for late assignments. Late submission of a homework is accepted until it is discussed in class. You are encouraged to turn in homeworks even if you have lost all of its mark due to penalty.
- Computers do break down. In fact they often break down at the worst time. It is your responsibility to be prepared for such accidents, and still meet the deadline for your projects and hands-on assignments. Also note that the labs get very busy at the end of the semester.
- It is a good idea to retain a copy of your works until you receive your final grade for the course.
- Please back up all your computer work.
- Some topics from the text or references will be designated as “reading assignments”. You are responsible to read these topics on your own, and ask questions during my office hours if there are any parts that need clarification.
- Academic Integrity Policy will be strictly enforced.
- Laptop/Cellphone Policy: Laptops can be both a benefit and a distraction in a classroom. While many students benefit from taking notes using a laptop, or having access to class-related resources during class, other students cannot resist the temptation of checking e-mail, chatting, working on assignments (for this or another class), or even playing games during class time. This class has a strict “no non-class related use” rule for laptops. If you are found violating this policy, then your in-class laptop privileges will be taken away and additional penalty may be levied. Cellphones are a distraction for everyone, and should be turned off during class. If there is a special situation where you need to have your phone on for a particular day, please let the instructor know the situation before class.