

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO
DEPARTMENT OF COMPUTER SCIENCE

CSC 671: Advanced Database Systems
Fall 2021

SYLLABUS

Instructor: Dr. Fereidoon (Fred) Sadri
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Office Hours: TBD
Text Book: Database System Concepts
by: Silberschatz, Korth, and Sudarshan
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 NoSQL Systems, map/reduce, information integration, and modeling uncertain information.

STUDENT LEARNING OUTCOMES: Upon successful completion 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, quizzes, presentations, and projects: 20%

Test 1: 20%

Test 2: 20%

Final Exam: 40%

TEST DATES:

Test 1: Mon. September 20, 2021.

(If UNCG is closed or our class is cancelled on Sep. 20, 2021, test will be on Wed. Sep. 22, 2021.)

Test 2: Mon. October 25, 2021.

(If UNCG is closed or our class is cancelled on Oct. 25, 2021, test will be on Wed. Oct. 27, 2021.)

Final Exam: According to UNCG final exams schedule.

IMPORTANT NOTE

ACADEMIC INTEGRITY POLICY: Students are expected to abide by the UNCG Academic Integrity Policy, which is available from

<https://osrr.uncg.edu/academic-integrity/>

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.” Please see <https://osrr.uncg.edu/academic-integrity/the-pledge/>.

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:

- Students must have satisfied all prerequisites for this course, or have permission from the instructor.
- The grade you will receive in this course is a function of your numerical marks in the assignments, quizzes, 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 and exams. No make-up tests/exams 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.
- 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 the mark due to penalty.**
- 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 classroom hours or my office hours if there are any parts that need clarification.
- For administrative reasons I may need to make copies of some of your works and exams. Please notify me if you wish no copy of your works and tests to be made.
- **Academic Integrity Policy** will be strictly enforced.
- Smoking is strictly prohibited in classroom. This includes e-cigarettes.
- **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.
- **Disruptive Behavior:** Disruptive behavior is unacceptable in any classroom. Please do not engage in non-class-related conversation, use of electronic devices, or other work not related to the class. Do not start side conversations or debates with others in this class. If you have questions, you should ask the instructor. Do not make noises in class. Note the following (from Student Policy Handbook)
<https://sa.uncg.edu/handbook/policies/disruptive-behavior-in-the-classroom/>
 “The instructor may withdraw a student from a course for behavior that is deemed by the instructor to be disruptive to the class.”

Required UNCG syllabus language

Approved by Faculty Senate on July 29, 2021

As we return for fall 2021, the campus community must recognize and address continuing concerns about physical and emotional safety, especially as we will have many more students, faculty, and staff on campus than in the last academic year. As such, all students, faculty, and staff are required to uphold UNCGs culture of care by actively engaging in behaviors that limit the spread of COVID-19. Such actions include, but are not limited to, the following:

- Following face-covering guidelines
- Engaging in proper hand-washing hygiene when possible
- Self-monitoring for symptoms of COVID-19
- Staying home if you are ill
- Complying with directions from health care providers or public health officials to quarantine or isolate if ill or exposed to someone who is ill.

Instructors will have seating charts for their classes. These are important for facilitating contact tracing should there be a confirmed case of COVID-19. Students must sit in their assigned seats at every class meeting and must not move furniture. Students should not eat or drink during class time.

To make it easier for students to hear their instructor and/or read lips and if conditions permit, instructors who are fully vaccinated and who can maintain at least six feet of distance from students may remove their masks while actively teaching if they choose, but will wear a mask at all other times while in the classroom, including during the periods before and after class

A limited number of disposable masks will be available in classrooms for students who have forgotten theirs. Face coverings will also be available for purchase in the UNCG Campus Bookstore. Students who do not follow masking requirements will be asked to put on a face covering or leave the classroom to retrieve one and only return when they follow the basic requirements to uphold standards of safety and care for the UNCG community. Once students have a face covering, they are permitted to re-enter a class already in progress. Repeated issues may result in conduct action. The course policies regarding attendance and academics remain in effect for partial or full absence from class due to lack of adherence with face covering and other requirements. For instances where the Office of Accessibility Resources and Services (OARS) has granted accommodations regarding wearing face coverings, students should contact their instructors to develop appropriate alternatives to class participation and/or activities as needed. Instructors or the student may also contact OARS (336.334.5440) who, in consultation with Student Health Services, will review requests for accommodations.