

UNIVERSITY OF TEXAS AT DALLAS
Department of Computer Science
Course Syllabus, Fall 2016.

COURSE NUMBER: CS6360.004
COURSE TITLE: Database Design
CREDIT HOURS: 3
Class Hours: Monday/Wednesday 8:30 AM to 9:45 PM
Location: ECSS 2.201
INSTRUCTOR: John Cole
Office: ECSS 4.606
Office phone: 972.883.6353
Office Hours: 2:30 to 3:30 Monday/Wednesday or by appointment
E-Mail: John.Cole@utdallas.edu
Faculty Web page: www.utdallas.edu/~John.Cole

TA: See instructor Web site
Office:

Course Description

Topics: Introductory concepts: Data models, ER diagrams. Relational Model, Query Languages: Relational Algebra, Relational Calculus, SQL. Database Design Concepts: Functional dependencies, Normal forms. Data Organization, Index Structures. Query Optimization. Transaction Processing: Concurrency control, Deadlock prevention, Serializability, Recovery, Security issues. Special topics (Database internals, Web based systems, DDBMS).

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CS 5343 or equivalent (Data structures and algorithms): Abstract data types: lists, stacks, queues, trees, search trees. Hashing. Priority queues: heaps. Sorting and searching. Graphs: representation and algorithms. Running-time analysis of algorithms and order notation.

Course Goals

Study methods, principles and concepts that are relevant to the design of database systems. Analyze issues related to database systems from different points of view (designer, programmer, user, performance analyst, administrator).

Grading

Students will be evaluated on the basis of three factors:

1. Their performance on two exams.

2. Their performance on a project.
3. Their performance on other homework and quizzes.

Project and other homework: 30% of grade

Exams and quizzes: 70% of grade

There will be no extra credit work.

Grading will be on a curve, although it is the opinion of the instructor that there is a certain minimum set of knowledge which you must demonstrate to be considered proficient in the subject. The curve takes into account problems in measurement and will not be decided until all grades are in. Plus and minus grades may be given, depending upon the curve and cut-off points. The base grading given below may be adjusted based upon the performance of the class as a whole:

A - 90% to 100%

B - 80% to 89%

C - 70% to 79%

D - 60% to 69%

Below 60% is failing.

Textbook

Fundamentals of Database Systems, 7th Edition, R. Elmasri and S. B. Navathe, Addison-Wesley Inc.

GENERAL RULES:

- 1) There will be regularly assigned reading and homework problems. Reading assignments should be done **before** the class lecture, and are to be found in the class schedule on the instructor's Web site. Homework problems will require the student to spend time writing or programming a computer outside of class.
- 2) Assignments are due on the dates given in eLearning. Late assignments will lose 10 points per day up to five days, after which no credit will be given.
- 3) Although class attendance is not mandatory, it will be documented and you are expected to attend. Pop quizzes may be given, for which there is no makeup.
- 4) Exams are closed book. You are to use only materials provided with the exam. If you require a calculator, you will be notified well in advance of the exam. Calculators on cell phones are not allowed.
- 5) No supplemental exams. Exceptional cases, such as an illness or accident, will be handled on an individual basis. Proof is required and is the responsibility of the student.
- 6) Students have one week after the result of an assignment or exam is returned to request a review/correction of their grade. A review can result in the lowering of a grade.
- 7) Those suspected of cheating will be subject to the university's discipline code.

CLASS MATERIALS, ASSIGNMENTS:

1) Class materials will be available on eLearning or the instructor's Web site. You should check the Web site frequently.

2) Homework should be submitted according to the given, usually through eLearning.

ACADEMIC HONESTY:

The University of Texas System Policy on Academic Honesty appears in the Regents Rules and Regulations, Part One, Chapter VI, Section 3, Paragraph 3.22. *Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another, any act designed to give unfair advantage to a student, or the attempt to commit such acts.* The **minimum** penalty for academic dishonesty is a failing grade (zero) for the project or examination. Do your own work on all projects and exams. DO NOT let anyone copy your work!

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.