

CMSC 362: Theory of Databases (3 credits) Spring 2009

Course Web Site: <http://narnia.homeunix.com/~robert/Spring2009/cs362.html>
Instructor: Robert Marmorstein rmmarm@sdf.lonestar.org (395-2185)
Lecture: Ruffner 356 11:00am-11:50am MWF
Office Hours: Ruffner 329 10:00am-10:50am MTWRF or by appointment

Course Description:

A course covering the theory and practice of modern databases design and implementation. Topics include relational and hierarchical database design, database query languages, update consistency, and distributed databases. Prerequisite: CMSC 162. 3 credits. *Writing Intensive*.

Prerequisites:

CMSC 162 is a prerequisite for this course.

Course Objectives:

The student will learn principles of database design including the entity-relationship model, functional dependencies, and normal forms. The student will be able to create a relational database and perform SQL queries against it.

Textbook and Other Resources:

The textbook for this class is "A First Course in Database Systems" by Jeffrey D. Ullman and Jennifer Widom (3rd edition).

Course Requirements:

Your grade will depend on successful completion of programming projects (50%), homework assignments and quizzes (20%), the final exam (15%), and two midterm exams (15%). The semester paper will be considered a homework assignment and will be part of the homework grade.

Grading Policy:

Late work will not be accepted unless you have a serious medical or family condition which prevents you from completing the assignment on time. You do not need a doctor's note, but you must send me e-mail at least 12 hours before the assignment is due to schedule a new due date. At your option, **you may work with a partner on the lab sessions**.

Slip Days:

You may extend the due date of one or more lab sessions using slip days. You will be allocated a fixed number of slip days at the start of the semester. You may use all of your slip days on one assignment or you may use them over multiple assignments. Keep in mind, however, that once you use them up, they are gone for good. Slip days are calculated from the minute the assignment is due until you turn it in, even over weekends and holidays. I round **up** to the nearest integer value, so if you turn an assignment in 24 hours and 1 minute late, you will use up **2** slip days. For example, if a lab is due on Friday at 5pm, you can use two slip days and turn in the lab Sunday morning. *Slip days cannot be shared, traded, bought, or sold.*

Grading Scale:

A+: 100, A: 99-96, A-: 95-90, B+: 89-87, B: 86-83, B-:82-80, C+:79-77,
C:76-73, C-:72-70, D+:69-67, D: 67-63, D-:62-60, F: 60 or less.

Attendance:

I expect you to attend class unless you are sick or engaged in a school-sponsored sport or extracurricular activity. I will rely on your honor for enforcement of the attendance policy. In accordance with Longwood policy, missing more than 10% of scheduled class time to unexcused absences may result in loss of one letter grade. Missing 25% of class or more (whether excused or not) may, at my discretion, result in a failing grade.

Collaboration:

You may freely discuss the lab sessions as long as you do not copy code electronically. You may also discuss the homework assignments, but I expect you to turn in your own work that you have written (or typed) in *your own words*. **The final exam, the midterm exam, and quizzes are to be completed entirely on your own.** Infractions of this policy will be dealt with under the Longwood Honor Code. Any student convicted of an honor offense involving this class will automatically receive an F in addition to any penalties imposed by the Honor Board. You should consider all work in this class to be pledged work, whether or not the pledge itself appears on the assignment.

Food and Drink:

Please do not eat in class (it distracts me and the other students). You may bring non-alcoholic beverages to class. Violations of this policy may be considered an unexcused absence. Because this class meets during the lunch hour, I may be willing to consider some exceptions to this policy. However, you must make arrangements with me BEFORE you bring food to class.

Cell Phones and Laptops:

Cell phones and laptops are to be turned off and put away during lecture unless I instruct you to bring them to class for use in the lab sessions. Violations of this policy may be considered an unexcused absence.

Tentative Course Schedule:

Jan. 12-16	Introduction, The Entity-Relationship Model
Jan. 19	Holiday - No Class
Jan. 21-23	Weak Entity Sets
Jan. 26-30	Keys and Constraints
Feb. 2-6	The Relational Model
Feb. 9-13	The Relational Algebra
Feb. 16-20	Midterm Review, Midterm Exam
Feb. 23-27	SQL Queries
Mar. 2-6	Advanced SQL Queries
Mar. 9-13	Holiday - No Class
Mar. 16-20	SQL Tables and Schemas
Mar. 23-27	Using Views in SQL
Mar. 30-Apr. 3	Constraints and Triggers in SQL
Apr. 6-10	Transactions and Consistency
Apr. 13-17	Database Administration/Security and Authorization
Apr. 20-24	Catchup and Final Review
May 1	Final Exam(8:00am to 10:30am, Friday)