

Thomas L. Brown
<http://faculty.tamuc.edu/tombrown/cs340.html>
Conference: Mon-Thur 3:30 + appointments

Office: Jour 238
Phone: 903.886.5403

CS 340: Introduction to Database
Spring 2013

Course Description

This course offers lecture, laboratory, and online interaction to provide a foundation in data management concepts and database systems. It includes representing information with the relational database model, manipulating data with an interactive query language (SQL) and database programming, database development including internet applications, and database security, integrity and privacy issues.

Audience

Students planning to enroll for this course should have mastered the fundamentals of programming and basic data structures.

Student Learning Outcomes*

- Install, configure, and interact with a relational database management system;
 - Describe, define and apply the major components of the relational database model to database design;
 - Learn and apply the Structured Query Language (SQL) for database definition and manipulation;
 - Utilize a database modeling technique for a single entity class, a one-to-one (1:1) relationship between entity classes, a one-to-many (1:M) relationship between entity classes, a many-to-many (M:M) relationship between entity classes, and recursive relationships;
 - Define, develop and process single entity, 1:1, 1:M, and M:M database tables;
 - Comprehend then implement web database programming fundamentals by developing an application program interface (API) to access and maintain a relational database;
 - Learn and implement the principles and concepts of information integrity, security and confidentiality;
 - Apply ethical computing concepts and practices to database design and implementation.
- * measured by exam, quiz, lab and homework assignment results

References and Materials

- Murach, Joel. Murach's MySQL. Mike Murach & Associates, 2012. ISBN: 978-1-890774-68-4.
- MySQL database software and associated documentation is available as a free download from apachefriends.org or MySQL.com.
- A usb flash drive to store software, course files and documents. [note: to conserve funds consider online resources, eBooks etc.]

Measurement and Evaluation:

Grades will be based upon an evaluation of the midterm exam score (100 pts), final exam score (100), and homework (200). A point total in the range of 360-400 will earn the grade "A", 320-359 a "B", 280-319 a "C" and so on. College policy must be followed to obtain an "X" (incomplete). Unless circumstances are beyond control, the student is expected to withdraw instead of delaying completion of the course.

CLASS POLICY & PROCEDURES

Activities and Requirements

1. **Assigned Readings:** The student is expected to retrieve and read references related to assignments and class discussions.
2. **Attendance:** The student is expected to attend orientation sessions, and scheduled examinations. Regular interaction should ensure that expectations are understood, and feedback provided for monitoring and assessing progress. If an absence is anticipated, the student should attempt to notify the instructor in advance. When absent, the student is responsible for obtaining assignments and related materials from the course webpage.
3. **Participation:** The student is expected to monitor the course webpage, attend scheduled class meetings, interact with the instructor [and pair programmer], implement and test software examples, submit and present homework solutions, and provide assistance with technical issues.
4. **Assignments and Exams:** These graded activities are based upon course objectives related to assigned readings, study questions, and exercises. The student is expected to complete each homework assignment and exam at the scheduled time. Should one of these activities be missed, the next grade will be counted twice.
5. **Intellectual Honesty and Ethics:** By departmental policy, the discovery of plagiarism (example: copying from another's exam or homework solution) will result in a grade of "F" on a particular graded activity. A subsequent breach of this policy mandates a grade of "F" for the course. Also, the student is expected to follow university, departmental and class policies and procedures for information security and privacy.
6. **Conduct:** "All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (re: Student Handbook.)
7. **Special Accommodations:** Students in need of accommodations for disabilities should contact the Director of Disability Resources and Services, Gee Library Room 132, Phone (903) 886-5150 or (903) 886-5835 or Fax (903) 468-8148.

Semester Calendar

Week	Topic/Activity	Chapter
1	Orientation and introduction to database management Software installation and configuration(MYSQL)	Appendix (A or B)
2	Overview of database development Introduction to Relational databases and Structured Query Language(SQL)	1 2
3	SQL queries and table updating	3,7
4-5	SQL queries	4-6
6	Table Updating	7
7	Data types Functions	8 9
8	Midterm exam(Tues 5 March): readings, class exercises, and lab Assignments 1-7	
9	Spring Break	
10	Database design	10
11	Creating tables and indexes Views	11 12
12	Stored programs Transactions and locking	13 14
13	Stored procedures and functions	15
14	Triggers and events	16
15	Database administration and security	17-18
16	Database backup and restore	19
17	Final exam(Tue 7 May, 10:30am): readings, class exercises, lab assignments, and programming examples	7-19

* continues for most of the semester