

# **MIS 325: Database Design and Implementation**

## **Spring 2010**

Room: UTC 1.130  
Time: MW 9:30 to 10:45      MW 11:00 to 12:15  
Unique: 03650                      03655

### **John Mote**

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### **Course Objectives**

Database management systems form the backbone of virtually every modern corporate information system. The database supports the organization's highly structured, operational activities (e.g., inventory, sales, marketing, personnel) as well as the ad hoc, strategic managerial analysis of complex business decision problems (e.g., new product introduction, plant expansion, off-shoring, downsizing, stock offerings). Without a well designed and intelligently implemented database, the organization will have a difficult time remaining competitive in the marketplace.

This course provides a balanced introduction to the design and implementation of corporate database management systems. We will examine effective strategies and techniques for modeling typical corporate data collection, retrieval and analysis problems. By understanding the information needs and data flows within an organization, we can create a database solution that best serves our users. The design skills we master in this course are universal. That is, the same basic modeling skills are needed whether we are designing a database for a single-user, pc-based environment or for a thousand-user, client-server, distributed environment.

Given a database design, and the corresponding hardware and network environment, the next crucial step of the process is the implementation phase (including verification). We will use Microsoft SQL Server as our primary vehicle for mastering the database implementation process. We will also use ASP (Active Server Pages) for the user-interface component of web-based databases.

Given a basic design and implementation, the final step of the process is the ongoing monitoring and revision of the database management system as the organization, the users and the database itself evolve over time. Clearly, this step never ends.

## **Recommended Textbook**

Murach's SQL Server 2008 for Developers

Bryan Syverson and Joel Murach

Murach Books, 2008

ISBN-13: 978-1-890774-51-6

<http://www.murach.com>

## **Supplemental Readings**

Additional readings will be provided throughout the semester to provide background and to help fill gaps in the lectures.

## **Software**

You do not need to purchase any software for this class. Everything is available on the computers in the Mod and Millennium Labs. You may also download the software (Visio Pro and SQL Server) at no cost to your own Windows computer. Installation instructions will be provided during the semester.

## **Class Web**

All of the class material (slides, assignments, sample databases and ASP applications, FAQs, grades, etc) can be found at:

<http://www.utexas.edu/courses/mis325>

## **Teaching Assistants**

The TAs will help students with software training and homework assignments. They will also grade some of the assignments, but they will not grade the exams.

## **Attendance**

Roll is never taken, but attendance is strongly encouraged. No credit will be given for missed quizzes or in-class assignments.

## **Grading**

Assignments & Quizzes	40 percent
February 24th Exam	20 percent
March 31st Exam	20 percent
May 5th Exam	20 percent

## **Assignments**

All assignments will be posted on the web. Most assignments will be turned in electronically. Late assignments will be penalized twenty percent per calendar day (not class day) up to the time when the graded assignments are returned to the class. In order to be fair to the other students in the class, late assignments cannot be accepted after that point.

## **Quizzes**

A few unannounced quizzes may be given during the semester. They will count as minor homework assignments.

## **Exam Format**

The first exam will be held in the classroom. It will be closed book.

The second and third exams will be held in the Mod Lab. They will be open book, open note, open web. You must verify that you are able to logon to the lab computers prior to the exams. If you cannot logon, then speak to the staff in the Millennium Lab.

Sample exams will be distributed prior to each exam.

## **Re-grades**

Occasionally, assignments and exams are graded incorrectly. All requests for re-grades must be submitted within one week of the date the graded item is returned to the class.

## **Students with Disabilities**

The University of Texas provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

## Prerequisites

There are no formal prerequisites for MIS 325. Some students do, however, know a procedural programming language like Visual Basic. Some are learning VB this semester in MIS 304. Quite a few students know quite a bit about web programming (HTML, CSS, JavaScript). A handful know a little bit about SQL, but very few have an indepth knowledge of the language. To repeat: There are no prereqs for this class. You will be taught everything you need to know about VB, HTML, SQL and all of the other acronym languages.

## Tentative Schedule

Revisions to the schedule (as well as suggested readings, assignments, handouts, etc) will be announced in class and posted on the web.

<b>Date</b>	<b>Topic</b>
January 20th (Wed)	Course Introduction
January 25th (Mon)	Basic Database Concepts (Part 1)
January 27th (Wed)	Basic Database Concepts (Part 2)
February 1st (Mon)	Database Models & ER Diagrams (Part 1)
February 3rd (Wed)	Database Models & ER Diagrams (Part 2)
February 8th (Mon)	Normalization
February 10th (Wed)	SQL Introduction
February 15th (Mon)	SQL Server (in Mod Lab)
February 17th (Wed)	Data Definition Language (Part 1)
February 22nd (Mon)	Data Definition Language (Part 2)
<b>February 24th (Wed)</b>	<b>Exam One</b>
March 1st (Mon)	Select: Basics
March 3rd (Wed)	Select: Aggregation
March 8th (Mon)	Select: Joins
March 10th (Wed)	Select: Special Cases
March 22nd (Mon)	Insert, Update and Delete
March 24th (Wed)	Functions and Procs
March 29th (Mon)	Catching Our Breath
<b>March 31st (Wed)</b>	<b>Exam Two</b> (in Mod Lab)
April 5th (Mon)	HTML Review
April 7th (Wed)	ASP: Introduction
April 12th (Mon)	ASP: Select (Part 1)
April 14th (Wed)	ASP: Select (Part 2)
April 19th (Mon)	ASP: Insert
April 21st (Wed)	ASP: Update
April 26th (Mon)	ASP: Delete
April 28th (Wed)	ASP: Odds & Ends
May 3rd (Mon)	Catching Our Breath
<b>May 5th (Wed)</b>	<b>Exam Three</b> (in Mod Lab)

