



MIS 542 – Management of Database Systems (Tentative)

Credit Hours: 4

Term Year: Spring 2007

Section A – On Campus, Classroom

Section B – Online, To Access the Course Web site visit bb.uis.edu

Instructor: Te-Wei Wang, Ph.D. Assistant Professor

Office: UHB 4033

Office Hours: Thursday: From 3:00 pm to 5:00 pm or by Appointment

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Course Description

Database design theory and development techniques are covered where the main focus is on the relational databases. Topics discussed include data modeling theories (entity-relationship diagrams) and theory implementation in CASE tools, data definition language to create physical databases in commercially available RDBMS such as Oracle 10g, data manipulation language and Structure Query Language (SQL) to manage data within the database, client/server, distributed and Internet databases architectures, form and report design. The main goal is to train the students to assume roles such as database analyst/designer or administrator throughout their professional career. Access to the Internet is required.

Course Objectives

1. This course is to prepare student with fundamental knowledge to become a Database Administrator (DBA).
2. This course provides information about current trends in database development and popular DBMS products.
3. This course gives student an opportunity to work with a group building a working database system.

Prerequisites

MIS502, MIS552. Restricted to graduate students.

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. All accommodations must be approved through the Office of Disability Services (ODS) in the Human Resources Building (HRB), Room 80, 217-206-6666.

Learning Outcomes

After completing this course, students

1. can use SQL SELECT statement to retrieve data from an existing database.
2. can describe and to use Data Definition Language (DDL) and Data Manipulation Language (DML).
3. can discuss popular Database Design methodology with confidence.
4. can analyze data requirements using Entity-Relation Diagram (ERD).
5. can use normalization rules to minimize database abnormality.
6. can build a relational database using a popular Database Management System (DBMS, currently, Oracle 10g).
7. are knowledgeable about user management in DBMS.
8. can build interfaces to interact with relational database through database access standards (ODBC, JDBC, and XML).
9. can describe and argue the potential of using database as business intelligent systems.
10. are familiar with DBMS products and market dynamic.

Required Text

Required: Database Processing: Fundamentals, Design, and Implementation, By David M. Kroenke, Published by Prentice Hall, 2006, ISBN 0-13-167267-3

Optional: Oracle Database 10g: The complete reference, by Kevin Loney, Published by Oracle Press/McGraw Hill, 2004, ISBN 0-07-225351-7

Course Calendar

Week	Course Content	Learning Outcome	Assessment Methods (Assignments, Quizzes, and Project)
1/16-1/21	Chapter 1: Introduction Applying for UIS Oracle Account	3	Week 1 assignment: Screen Capture of Oracle Account
1/22-1/28	Chapter 2: Introduction to SQL Upload, Backup Database	1 6	Week 2 assignment: Create database from existing backup Quiz 1 (Chapter 2) Project Assignment Given
1/29-2/4	Chapter 3: The relational model and normalization	3, 5	Week 3 assignment: SQL select statement exercise Quiz 2 (Chapter 3)

Week	Course Content	Learning Outcome	Assessment Methods (Assignments, Quizzes, and Project)
2/5-2/11	Chapter 4: Database Design Using Normalization	5	Week 4 assignment: Normalization problems Quiz 3 (Chapter 4)
2/12-2/18	Chapter 5: Data Modeling with ER model	4	Week 5 assignment: ER Modeling Quiz 4 (Chapter 5)
2/19-2/25	Chapter 6: Transforming Data Models into Database Design	2	Week 6 assignment: Normalization & Table creation Quiz 5 (Chapter 6) Project Milestone 1, Due: ER model with normalized design.
2/26-3/4	Chapter 7: SQL for Database Construction and Application Processing	6	Week 7 assignment: advance SQL for report purpose Quiz 6 (Chapter 7)
3/5-3/11	Chapter 8: Database Redesign	5	Week 8 assignment: Modify tables Quiz 7 (Chapter 8)
3/12-3/18	Spring Recess		
3/19-3/25	Chapter 9: Managing Multi-user database	7	Week 9 assignment: users in Oracle database Quiz 8 (Chapter 9) Project Milestone 2: Well defined tables on Oracle database.
3/26-4/1	Chapter 10: Managing Database with Oracle	1, 10	Week 10 assignment: Create Web Interface for Database Quiz 9 (Chapter 10)
4/2-4/8	Chapter 12: ODBC, OLE DB, ADO and ASP	8, 10	Quiz 10 (Chapter 12) Project Milestone 3: Populated tables.

Week	Course Content	Learning Outcome	Assessment Methods (Assignments, Quizzes, and Project)
4/9-4/15	Chapter 13: XML and ADO.NET	8, 10	Quiz 11 (Chapter 13)
4/16-4/22	Chapter 14: JDBC, JSP, and MySQL	8, 10	Quiz 12 (Chapter 14) Project Milestone 4: Web pages for database access
4/23-4/29	Chapter 15: Database Processing for Business Intelligence Systems	9	Quiz 13 (Chapter 15)
4/30-5/6		6	Final Project Due
5/7-5/12	Final Week		5/7 All Quizzes and Assignments submission will be closed from the Blackboard.

Course Requirements

This course is designed based on a 16-week semester schedule. The course materials are organized under the [Course Document page](#) on the UIS Blackboard System. These course materials include reading assignments, software tutorials, weekly assignments, weekly quizzes, project assignments and project milestone assignments. Contents will be added weekly to the Blackboard systems. You are expected to complete these requirements based on the course calendar. Specific requirements for different types of assignments are explained below. Please note that all assignments are individual assignments. You can discuss assignment, technical know-how, and experiences on the course discussion forum with your classmates. However, you have to submit your own assignment through the assignment page to receive credits for your work.

- **Weekly Assignments:** Due to the technical nature of this course, tutorials are given frequently during the semester. To ensure proper learning through these tutorials, weekly assignments are given. Typically, weekly assignment asks you to capture a few screen shots during the process of completing the tutorial. Or, you may be asked a few questions as evidence of following the tutorial. Weekly assignments are posted on the [Assignment Page](#) with a link to the [Course Content Page](#).
- **Quizzes:** Quizzes are designed to evaluate your understanding from the weekly reading assignments. Quizzes are in the formats of multiple choice and short answer questions. Each quiz is weighted 10 points. Totally 13 quizzes will be given (see the course calendar). The **Total points from your quizzes are 130 points. If you score more than 130 in the semester, only 100 will be counted toward your final grade. In other words, you can afford to miss 30 points from the 13 quizzes and still maintain 100% from your quizzes.** All quizzes are open-book quizzes. Quiz has deadline. Students cannot discuss the quiz questions with your

classmates before the deadline. Typical deadline for a quiz is 2 week after the quiz is posted. The instructor reserves the right to change the deadline as necessary.

- **Project Assignment:** Project assignment is the milestone of completing this course. The project assignment evaluates your ability to use DBMS and your database knowledge to carry out a independent system. Knowledge from both Tutorials and Textbook reading is required for you to complete this project. Details about project assignment will be listed in a separate document.
- **Project Milestone Assignment:** To ensure proper project management, project milestone assignments are given. This is not a separate assignment from your project assignment. Instead,

Grading

Quizzes	100 points
Weekly assignments	100 points
Project Assignments	80 points
On Time Milestone Submission	20 points
Total	300 points

Grade Ranges

275 points or higher: A
260 to 274 points: A-
250 to 260 points: B+
240 to 249 points: B
225 to 239 points: B-
210 to 224 points: C+
190 to 209 points: C
180 to 189 points: C-
170 to 179 points: D+
160 to 169 points: D
Below 159 points: F

Communication with Instructor

The best way to communicate with your instructor is through UIS e-mail. E-mail received during the business days will be replied within 24 hours. E-mail received during the weekend or holiday will be replied on the following business day. You can also post message to the discussion forum titled "Professor's Office" on the Blackboard. The policy about the message posted on the Professor's Office Forum is the same as e-mail.

You can also reach the instructor through phone conversation. Three phone numbers are listed at the beginning of this syllabus. You can also reach the instructor through Skype. Your professor's Skype accout is "Tewei Wang."

Plagiarism

The university plagiarism policy as stated in the UIS catalog applies: "If you are alleged to have committed plagiarism, your instructor may refuse to grade the assignment and record it as no credit. Penalties may include no credit (i.e., failure) in the course as well as recommendation for disciplinary probation, suspension, or dismissal from the class, program; or UIS." By enrolling in this course, you agree that all of your course work including postings on the class courseware site, at the instructor's discretion, may be sent to a plagiarism checking service.