INFO 5707 Data Modeling for Information Professionals

Instructor

Abdulrahman Habib (call me Habib)
Teaching Fellow
Department of Library and Information Sciences
College of Information, University of North Texas
Discovery Park, Room E292J
Phone: (940) 565-3497
Email: AbdulrahmanHabib@my.unt.edu

Course Description

This course is designed to meet the needs of the information industry for data modeling and database design. It focuses on the application of data modeling technologies to library and information science practice and research. The class project will provide hands-on experience in designing and implementing database systems for information service oriented organizations.

Course Objectives

Upon completion of this course, students should be able to:

- Understand the basic concepts of database and data modeling
- Master database conceptual design using the Entity-Relationship modeling approach
- Create conceptual design diagrams using graphic software packages
- Master a Database Management System (Microsoft Access™ in this class. Students can also choose to use MySQL for term project) for developing a real-world database system
- Understand the syntax of Structured Query Language (SQL)
- Write SQL statements to perform tasks such as database table definition, new data input, and information retrieval,
- Understand trends in database-related technologies and the application of database technologies to various management activities in information organizations

*To achieve the learning objectives, students are expected to **study 9 - 12 hours per week** on this course.*

Office Hours and Online Interaction

This course will have a website in Blackboard Learn (learn.unt.edu). Discussion board is for discussion, questions, and sharing resources. Your participation in the discussion board is important for the class success. Videos for labs and hands-on exercises will be posted during the class. It demonstrates the use of Microsoft Access™ and SQL. Students are welcomed to make an appointment at any time to discuss course related questions. Habib's office hours are posted below. Please send him an email even if you

plan to visit her during the office hours so that he can schedule individual meetings for all visiting students. You can also schedule online meeting or phone calls when needed.

Date & Time:	Monday: 09:00 AM – 12:00 PM
Location:	Discovery Park, Room E292J
Phone:	940-565-3497

Textbook

Coronel, C., Morris, S., & Rob, P. (2013). *Database Systems: Design, Implementation, and Management*, Tenth edition. ISBN-13: 978-1-111-96960-8; ISBN-10: 1-111-96960-4, Course Technology*; available at* amazon.com, http://www.barnesandnoble.com/ and www.course.com

* The book is available at UNT Library

Online Reference

To help you use Microsoft Access for class assignments and the class project. The class provides video tutorials on Microsoft Access and MySQL, which should satisfy most of the needs for this course. It is also recommended to use other online resources. The links below will help you to understand MS Access and MySQL better:

- Lynda.com Free access to Lynda courses for UNT students
- Microsoft Access Tutorials
- www.youtube.com
- W3 Schools Online Tutorial
- MySQL.com Reference Manual
- Code School

Software/Hardware Requirements

In this class, we will use the following applications:

- Microsoft Visio™ to draw the tables relationship. Visio and MS Office are available in many UNT computer labs, and UNT Virtual lab. UNT students can also download a free MS Office version from (https://untsystem.onthehub.com). Alternative applications like:
  - Yed available for windows and Mac
  - Draw.io online drawing tool
- Microsoft Access™ as the Database Management System for assignments and class projects.
- MySQL is an open source free Database Management System. You can use any of the following options:
  - MySQL Workbench available on Windows and Mac
  - Use an online MySQL platform
    - http://sqlfiddle.com
    - www.tutorialspoint.com

International Students Holding F-1 Visa

This is only for students in the hybrid section (002). Hybrid section means must of the class work is done on blackboard online, but we will still have multiple Face-to-Face classes. The meetings will be announced on Blackboard. International students who hold F-1 Visa must meet with the instructor during the class meetings or in Discovery Park Room E292J during the office hours.

Assessment

A student's grade is composed of following:

Class Participation:	5%
Assignments:	50%
Quiz:	10%
Term Project:	35%

The UNT scale for **grading** is as follows:

A = 90-100
B = 80-89
C = 70-79
D = 60-69
F = 59 and below

Class Participation (5%)

This is an online course in learn.unt.edu. You are expected to participate in online discussions. Minimum amount of participation will be **once a week** in which you can ask questions, answer questions posted by the instructor in class lessons, or respond to other students' questions or comments. The grade for class participation will consider both quantity and quality of online discussion involvement.

Assignments (50%)

You will complete **FIVE** assignments designed to help you to understand the topics of Microsoft Access™, Conceptual Modeling, and SQL. You should prepare professional-quality assignments and use graphic software packages (such as Microsoft Visio™, or other) to produce diagrams. Hand-written submissions are not acceptable.

Turn in your assignments by submitting them to the drop boxes setup in the Blackboard class website by the date specified in the **Recommended Study Schedule and Due Dates**. If an emergency arises which prevents you from submitting your assignments, you should contact the instructor or the TA as soon as possible before the due date. Late work without the permission of the instructor will receive a grade with a 10% penalty per day after the due date.

Quiz (10%)

You will take **ONE** quiz near the end of the semester. The quiz will cover all of the course content up to the date when the quiz is given. The questions in the quiz will be 30

multiple-choice questions that are randomly selected from the self-test questions and/or exercises (if applicable) distributed to you after each lesson. The quiz will be available in the Blackboard class website. The instructions on how to take the quiz will be announced one week prior to the quiz.

If an emergency arises which prevents you from taking the quiz at the specified date & time, you should contact the instructor or the TA as soon as possible before the due date.

Term Project (35%)

Students will work in teams or individually to design and implement a database application using Microsoft Access™, MySQL, or No SQL. You should demonstrate the use of knowledge and skills learned in class.

Academic Integrity

UNT has established a new policy on academic integrity, which can be found at the Provost office website: http://vpaa.unt.edu/academic-integrity.htm. The Department of Library and Information Sciences (LIS), University of North Texas has passed an "Academic Misconduct Policy" on April 15, 2005. All students should have signed the form "Student Acknowledgement of Academic Misconduct Policy" prior to enrollment in their SLIS course or as part of their application to the Department.

The Department expects all students to demonstrate both academic rigor and academic integrity. The purpose of this policy is to inform LIS students of their responsibilities regarding the University of North Texas (UNT) Student Standards of Academic Integrity (http://www.unt.edu/policy/UNT_Policy/volume3/18_1_16.pdf) and the procedures enforced by LIS for cases of misconduct. The LIS Academic Misconduct Policy is compatible with the UNT Academic Integrity policy.

The two categories of most relevance to LIS are cheating and plagiarism, which you can find the definitions from UNT Student Standards of Academic Integrity. To address problems of academic integrity, LIS has zero tolerance for violations of the LIS Academic Misconduct Policy. The following apply:

- The LIS Academic Misconduct Policy applies to any work submitted for LIS courses or degree requirements, including the Capstone Experience.
- LIS will retain students' signed statements acknowledging their understanding of the LIS Academic Misconduct Policy. LIS instructors will not accept students' claims that they were unaware of LIS and UNT policies, including definitions of forms of academic misconduct.
- LIS instructors will follow UNT regulations for reporting suspected violations to UNT, imposing academic sanctions, and recording sanctions for confirmed violations.
- An academic sanction is a penalty imposed on a student for academic misconduct. Sanctions may range from reduction of a test or assignment grade to revocation of an academic degree.
- LIS instructors retain the right to determine specific sanctions for their courses and to set additional policies and procedures that do not conflict with LIS or UNT policies.
- Students who have received academic sanctions are not eligible for LIS awards, honors, or other benefits.

Americans with Disabilities Act Compliance Statement

The Department of Library and Information Sciences, University of North Texas is committed to full academic access for all qualified students, including those with disabilities. In keeping with this commitment and in order to facilitate equality of educational access, faculty members in the Department will make reasonable accommodations for qualified students with a disability, such as appropriate adjustments to the classroom environment and the teaching, testing, or learning methodologies when doing so does not fundamentally alter the course.

If you have a disability, it is your responsibility to obtain verifying information from the Office of Disability Accommodation (ODA) and to inform me of your need for an accommodation. Requests for accommodation must be given to me no later than the first week of classes for students registered with the ODA as of the beginning of the current semester. If you register with the ODA after the first week of classes, your accommodation requests will be considered after this deadline.

Grades assigned before an accommodation is provided will not be changed. Information about how to obtain academic accommodations can be found in UNT Policy 18.1.14, at www.unt.edu/oda, and by visiting the ODA in Room 321 of the University Union. You also may call the ODA at 940.565.4323.

See Next Page for study schedule and due dates:

Academic Week #	Dates	Study Focus	Topic	Reading	Assignment Due
1	Jan 17 – Jan 22	Get familiar with Syllabus, Start Here, Lesson One & Two	Introduction to Database Concepts and Database Models	Chapter 1, 2	Class Survey (not graded)
2	Jan 23 – Jan 29	Lesson Three & Four	The Relational Database Model	Chapter 3	Assignment One (Jan 29 Midnight)
3	Jan 30 – Feb 5	Lesson Five	Conceptual (Entity Relationship) Design Basics	Chapter 4.1.1– 4.1.4	
4	Feb. 6 – Feb 12	Lesson Six	More Issues in Entity Relationship (ER) Modeling	Ch 4.1.5 – 4.1.11, 4.2, 4.3, 5	Assignment Two (Feb 12 Midnight)
5	Feb 13 – Feb 19	Lesson Seven	Normalization of Entities	Chapter 6	
6	Feb 20 – Feb 26	Lesson Eight	Database Design and Application Examples	Chapter 9	Term Project Proposal (Feb 26 Midnight)
7	Feb 27 – Mar 5	Lesson Nine	Structured Query Language (SQL) Basics	Chapter 7	
8	Mar 6 – Mar 12	Lesson Ten	Advanced Structured Query Language Applications	Chapter 8	Assignment Three (Mar 12 Midnight)
	Mar 13 – Mar 19	Spring Break			
9	Mar 20 – Mar 26	Lesson Ten	Advanced Structured Query Language Applications	Chapter 8	
10	Mar 27 – Apr 2	Lesson Ten (Cont'd)	Advanced Database Concepts	Chapters 10, 14	Assignment Four (Apr 2 Midnight)
11	Apr 3 – Apr 9	Lesson Eleven and Lesson Twelve	Advanced Database Concepts	Readings	
12	Apr 10 – Apr 16	Lesson Thirteen and Prepare for Final Project	Database Applications in Information Science	Online Readings	Assignment Five (Apr 16 Midnight)
13	Apr 17 – Apr 23	Review, Prepare for Quiz and Final Project	Introduction to No SQL, Big Data	Online Readings	
14	Apr 24 – Apr 30	Working on Term Project			Quiz Whole Week (ends on Apr 30)
15	May 1 – May 7	Submit Term Project			Term Project Final Report (May 3 Midnight)
16	**May 8 – May 14**	**Submit Grades**			