

**SLIS 5970**  
**Database Modeling and Design for Information Professionals**

**Instructor**

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**Course Description**

This course provides an introduction to theories and concepts of database management, and practice in designing and implementing a database application. The conceptual database design of the course will focus on Entity-Relationship Modeling, and the introduction to database models will emphasize relational databases and Structured Query Language (SQL). Technologies such as Microsoft Access and MySQL will be employed to implement database design. Students are expected to further familiarize themselves with the systems in their own time. Some advanced database concepts and current trends of database technology will be introduced as well.

**Course Objectives**

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

- Understand the basic concepts of databases
- Master conceptual design of databases
- Understand basic and advanced SQL and its applications
- Implement simple database applications
- Understand the trends of database related technology

**Text**

**Required:**

Peter Rob and Carlos Coronel. Database Systems: Design, Implementation, and Management, sixth Edition. ISBN 0-619-21323-X. Available at UNT bookstore

Complementary materials will be distributed to the class when appropriate

## Assignments & Examinations

There will be 5 exercises designed to help students to understand the topics of MS Access, Conceptual Modeling, and SQL. Students' assignments should be typewritten and diagrams should be produced by graphics software packages (such as Smart Draw MS PowerPoint, or Visio, etc).

There will be a mid-term exam and final exam for this course. See class schedule for exam dates. The mid-term exam will include all materials covered in lectures and readings up to that date. The final exam will include all materials covered in the lectures and readings from the mid-term date to the class before the final exam date.

Assignments are due, and exams will be given, on the dates specified. If an emergency arises which prevents you from handing in an assignment on time, or from taking an exam at the designated time, you should contact the instructor as soon as possible before the due date or the exam. Late work without the permission of the instructor will receive a grade with a 10% penalty per day after the due date.

## Class Project

The purpose of the class project is to provide an opportunity to demonstrate your understanding of DBMS issues covered in the class by designing and implementing a real-world database. You are free to choose the topics you are interested in. The project may be conducted alone or in teams of no more than three people. The more contributors to a project, the more ambitious it should be. Students in a team should be responsible for coordinating the work themselves. Each team member will receive identical grade for the project.

Your class project will have two major components:

- 1) Database design including:
  - a) Database overview and scope
  - b) User requirements
  - c) Conceptual schema
  - d) Logical schema
  - e) Data dictionary
  - f) Sample queries
- 2) Implementation: the implementation of your design. You have the freedom to choose any technologies you are familiar with. The implementation part of a final project should, at least, provide the functions of data entry, update, query, and simple report.

## Grading

Exercises:	30%
Project:	30%
Mid-term Exam:	20%
Final Exam:	20%

**Final Grade:** The UNT scale for grading is generally in the range of the following:

A = 90-100

B = 80-89

C = 70-79

D = 60-69

F = 59 and below

### **Academic Misconduct**

Cheating and disciplinary action for cheating is defined by the UNT Policy Manual Code of Student Conduct and Discipline. Cheating is an act of academic dishonesty. It is defined and is to be handled as follows:

“Plagiarism and cheating refer to the use of unauthorized books, notes or otherwise securing help in a test; copying tests, assignments, reports or term papers; representing the work of another as one’s own; collaborating, without authority, with another student during an examination or in preparing academic work; or otherwise practicing scholastic dishonesty.”

“Academic dishonesty matters may first be considered by the faculty member who may assign penalties such as failing, reduction or changing of a grade in a test, course, assignment, or other academic work, denial of a degree and/or performing additional academic work not required of other students in the course. If the student does not accept the decision of the faculty member, he/she may have his/her case heard by the academic department chairperson or head for review of his/her case. If the student does not accept the decision of the academic department chairperson, he/she may then follow the normal appeal procedures listed in Disciplinary Procedures.”

### **Americans with Disabilities Act Compliance Statement**

Anyone with a disability that will require accommodation under the terms of federal regulations must present a written accommodation request to the instructor within eleven days after the first class session. Copies of the School’s ADA Compliance Policy, ADA Policy on Auxiliary Aids and Reasonable Accommodation, and ADA Grievance Procedures are available through the main office of the School of Library and Information Sciences (ISB 205; telephone 940-565-2445). It is also recommended that you register with the Office of Disability Accommodation (University Union 318A, telephone 940-565-4323).

### **Office Hour**

Wednesday 3pm-5pm or by appointment (jpchen@unt.edu)

**Class Schedule**

<b>Week</b>	<b>Topics</b>	<b>Readings</b>	<b>Assignment Due</b>
1. Aug 31	Introduction to Database Applications for Information Professionals	Chapter 1	
2. Sept. 7	Database Concepts	Chapter 2	
3. Sept. 14	Database Design	Chapter 6	Access
4. Sept. 21	Conceptual Modeling	Chapter 3.1-3.3	
5. Sept. 28	Conceptual Modeling	Chapter 3.4-3.6	CM-exec 1
6. Oct. 5	Conceptual Modeling -Lab		CM-exec 2
7. Oct. 12	Normalization	Chapter 4	CM-exec 3
8. Oct. 19	Mid-Term Exam		
9. Oct. 26	SQL	Chapter 5.1-5.4	Project- Design
10. Nov. 2	SQL	Chapter 5.5 – 5.10	
11. Nov. 9	DB Applications	Chapter 7, 8	SQL
12. Nov. 16	Advanced Database Concepts	Chapter 9, 10	
13. Nov. 23	Web Database Systems	Chapter 15	
14. Nov. 30	Advanced Applications Integrating Database and Information Retrieval	Handouts	
15. Dec. 7	Final Exam		
16. Dec. 14	Project Presentation		Project- Implementation