

# CS345 PRINCIPLES OF DATABASE SYSTEMS

## General Information:

- College: College of Engineering and Natural Science
- Course: CS345 – Principles of Database Systems (3 credit hours)
- Semester: Fall 2007
- Time & Location: TBA
- Instructor: Dan Li (dan.li@nau.edu)
- Office: Engineering Bldg 69, Rm 255
- Office Hours: TBA

**Course Prerequisites:** CS249 (Data Structures and Algorithms)

**Course Descriptions:** This is a seminar style, project-oriented course emphasizing self-guided learning and exploration of fundamental topics related to database system design and management. This course covers the basic concepts in database systems, including data manipulation language and data definition language. Different kinds of database systems will be compared and the relational model and its implementation will be covered in depth together with an overview of SQL and its role in application development. This class is intended for senior computer science students who need an overview of database technology and apply the theory/concepts learned in the course to an extensive design project.

**Learning Outcomes:** Successful completion of this course will provide a student with the necessary skills to design and implement database systems that utilize data definition and manipulation languages to solve a variety of real-world applications.

**Course Structure/Approach:** This course presents material during lectures and through assigned reading and homework that are expected to be completed outside of class.

**Textbook and Required Materials:** Database System Concepts (Fifth Edition), by A. Silberschatz, H. F. Korth, and S. Sudarshan (2005), ISBN: 0-07-295886-3.

**Course Outline:** The schedule is tentative and subject to change depending upon the progress of the class.

Week	Topic
1	Introduction, Relational Model
2	SQL
3	SQL
4	Advance SQL
5	Database Design and E-R Model, Midterm I
6	Relational Database Design
7	Relational Database Design
8	XML
9	XML
10	Transaction Management, Midterm II
11	Transaction Management
12	Data Mining, Information Retrieval
13	Database System Architecture
14	Project Presentation, Midterm III
15	Project Presentation, Final Preparation
16	Final Exam

### Assessment of Student Learning Outcomes:

- **Methods of Assessment:**

Assessing students' achievement of this course's learning outcomes is done using homework, quizzes, examinations and project assignments.

(1) **Homework:** Homework will be collected and checked for both completion as well as content.

(2) **Examinations:** You will have to work efficiently to complete exams in the time allotted. The exams will be very similar to the homework problems, hence, if one does not do the homework the likelihood of successfully writing the examinations is greatly diminished.

(3) **In-class Participation:** In-class participation consists of answering questions, in-class assignments and quizzes (group and individual) and is used to assess what is being understood in a quick and timely manner.

(4) **Project:** You will do team project which will be assessed through project presentation and project reports.

- **Timeline for Assessment**

Homework is typically assigned bi-weekly throughout the semester. The mid-term exams will be given in week 5, week 10, and week 14. The final exam will be given during finals week

### Grading System:

	Numbers	Total Weight
Assignments	6	20%
Project	1	20%
Midterm Exam	3	30%
Final Exam	1	20%
In-class Participation	N/A	10%

Grading: A=90%-100%, B=80%-89%, C=70%-79%, D=60%-69%, F<60%.

### Course Policies:

- **Makeup Tests**

There are NO make-up tests without prior consent of the instructor.

- **Attendance**

Attending class is MANDATORY; tardiness and unexcused absences are considered lack of in-class participation and will be reflected in your grade.

- **Homework Late Policy**

You are given ONE "late day" that can be used towards homework submissions during the semester. A late day is defined as exactly 24 hours, so if an assignment is due at 11:30am on Monday, you could submit the assignment by 11:30am on that Tuesday by using up your late day.

- **Plagiarism and Cheating**

One word: DON'T. Cheating on tests or assignments will result in an immediate failure in the course. Cheating is intentionally claiming credit for work or knowledge that is not your own. Cheating is also intentionally making it possible for others to claim credit for work or knowledge that is not their own. In the event of a cheating incident the student receives an F in the course and a formal record of the incident is put into the student's file.

Moreover, you'd be amazed how easy it is to detect plagiarism or cheating. Cheaters don't spend tremendous amounts of time masking their copy, because that defeats the purpose and it would be simpler to do the homework themselves. Invariably, therefore, they get caught.

### University Policies:

- **Safe Working and Learning Environment**  
<http://oak.ucc.nau.edu/dam1/Safe%20Policy.htm>
- **Students with Disabilities**  
<http://www2.nau.edu/dss/>
- **Institutional Review Board**  
<http://www4.nau.edu/ovp/irb/index.htm>
- **Academic Integrity Guidance**  
<http://www.nau.edu/library/information/guides/plagiarism.html>