

CSE 412/598 Database Management
Fall 2006 Semester Syllabus
<http://www.eas.asu.edu/~cse412>

PROFESSOR: Dr. Susan D. Urban

OFFICE: Brickyard 472

OFFICE HOURS: M 11:00 am-noon, Th 3:15-4:15pm, also by appointment

Students should make every effort to utilize the scheduled office hours. However, if you are unable to attend these office hours, please attempt to schedule an appointment at least 24 hours in advance.

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CLASS SCHEDULE: TuTh 10:40-11:55am BYAC 190

CATALOG DESCRIPTION:

Introduction to DBMS concepts. Data models and languages. Relational database theory. Database security/integrity and concurrency.

PREREQUISITE: CSE 310 (Data Structures)

REQUIRED TEXTS:

Fundamentals of Database Systems, R. Elmasri and S. B. Navathe, Addison Wesley, 5th Ed., 2007.
Understanding Relational Database Query Languages, S. W. Dietrich, Prentice Hall, 2001.

OPTIONAL TEXT FOR ACCESS and ORACLE:

The Dietrich text provides some coverage of Microsoft Access (see Chapter 7). There are many books available on Access and Oracle. Since students differ in the type of information that they are looking for from a book (tutorial, overview, in-depth), an optional text has not been ordered. However, it is highly recommended that you find a tutorial or reference manual on the database products according to your own level of experience with the tool.

ADDITIONAL REFERENCES:

Database Systems Concepts, A. Silberschatz, H. Korth and S. Sudarshan, McGraw Hill.
An Introduction to Database Systems, R. Ramakrishnan and J. Gehrke, McGraw Hill
An Introduction to Database Systems, C. J. Date, Addison Wesley.
A First Course in Database Systems, J. Ullman and J. Widom, Prentice Hall
Database Systems Using Oracle: A Simplified Guide to SQL and PL/SQL, N. Shah, Prentice Hall

OBJECTIVES OF THE COURSE:

This course is intended to give students an understanding of data modeling concepts and the relational data model for the storage and retrieval of information. The retrieval of information emphasizes the formal query languages and the industry-standard query language SQL.

Detailed course objectives and outcomes are provided on the Beginning of Semester survey that must be completed by each undergraduate student by the end of the first week of classes. The course objectives are also available on myASU.

COURSE OUTLINE (see [COURSE CALENDAR](#) for a detailed timetable):

<i>Topic</i>	<i>Elmasri & Navathe (4th ed.)</i>	<i>Dietrich</i>
Introduction	Ch 1, 2	Ch 1.1
Database Design	Ch 12.2	
Entity-Relationship Model	Ch 3	Ch 1.2
Relational Model	Ch 5	Ch 1.1
ER-to-Relational Mapping	Ch 7.1	Ch 1.3
Relational Algebra	Ch 6.1-6.5	Ch 2
Query Processing and Optimization	Ch 15.7	Ch 2.5
Microsoft Access		Ch 7
Relational Database Design	Ch 10, 11.1-11.2	
Relational Calculus	Ch 6.6-6.7	Ch 3, 4
SQL	Ch 8, 9.1-9.2	Ch 5
Security and Authorization	Ch 23.1-23.4	Ch 5.6.3
Transactions, Recovery and Concurrency	Ch 17, 18, 19	

ASSESSMENT:

<i>Assessed Component</i>	<i>Weight</i>	<i>Activity</i>
Project		Group & Individual
Phase 1: Requirements Analysis and Conceptual Design	5%	Group
Phase 2: Relational Database Design and Prototyping	10%	Group
Phase 3: Implementation	10%	Individual
WinRDBI Homework Assignments		Individual
Relational Algebra	6%	Individual
Relational Calculus (DRC and TRC)	7%	Individual
SQL	7%	Individual
Midterm Exam	25%	Individual
Comprehensive Final Exam	30%	Individual
Total	100%	

Grade Assignment: A \geq 90; 90 > B \geq 80; 80 > C \geq 70; 70 > D \geq 60; 60 > E

The + and – grading options may be awarded to differentiate student performance within the indicated range.

ONLINE EXPECTATIONS AND PROCEDURES:

CSE 412 is an online-enhanced course and will utilize myASU. All constituents of the course (instructor, teaching assistants, and students) are expected to visit the course site for announcements and check their registered email address on a daily basis (Mon-Fri). Every effort should be made to respond to email, if required, within 24-48 hours during weekdays. Assignments will be submitted electronically on myASU and by hardcopy in class. Groups will be set up using myASU to facilitate group communication.

IMPORTANT! Since we are revising some of the deliverables for the group projects, the samples on the cse412 web site (<http://www.eas.asu.edu/~cse412>) differ from those on myASU. You **MUST** follow the information provided on myASU under Course Documents -> Group Projects.

LATE ASSIGNMENTS ARE NOT ACCEPTED!

WinRDBI individual homework assignments and the different phase deliverables of the project will be turned in at the beginning of class on each due date. WinRDBI assignments will be submitted through myASU before the start of class (as well as a hardcopy in class) and solutions to the WinRDBI assignments will be posted on myASU at the start of class.

MAKE-UP EXAMS ARE NOT GIVEN!

Students are responsible for making every effort to take exams at the scheduled class time and day.

Midterm Exam:	Thursday, Oct. 12, 2006	10:40-11:55am
Final Exam:	Friday, Dec. 8, 2006	10:00-11:50am

TEAM PROJECT:

The incorporation of a semester-long team project into the introductory database course was developed through a funded grant that was received by Dr. Suzanne Dietrich and Dr. Susan Urban from the National Science Foundation for the purpose of incorporating cooperative learning concepts and hands-on database experience into the undergraduate educational process. The project is also designed to allow students to experience different leadership roles and to develop communication skills, in addition to the development of technical knowledge about database systems. The project is divided into three major phases. The first two phases are group activities, leading to a prototype relational database implementation in Microsoft Access. The third phase is individual, requiring the implementation of the database in Oracle. Graduate and honors students will have additional implementation requirements in phase 3. Teams will be formed and phase 1 of the project will begin by the second week of the semester.

CLASSROOM BEHAVIOR AND PARTICIPATION:

Due to the group project and in-class group study problems, class participation is strongly encouraged. Points will be deducted from an individual's grade for lack of participation in in-class group activities. Students are also expected to come to each class on time and avoid disruptive side conversations.

MISCELLANEOUS NOTES:

- No audit registrations are allowed.
- Students are responsible for protecting their work - both hard copy (save old copies) and electronic versions (use security provided by the operating system).
- This syllabus represents the current status of the course and may be changed.

APPENDICES TO SYLLABUS:

Each student registered in the class **MUST** submit the following documents no later than the first week of classes.

- **[ACADEMIC INTEGRITY AND CODE OF CONDUCT](#)**

ASU Academic Integrity Policy:

http://www.asu.edu/studentaffairs/studentlife/judicial/academic_integrity.htm

CSE 412/598 follows the ASU Academic Integrity Policy in the administration of all course examinations and assignments. *Violations of the University Academic Integrity policy will not be ignored.* Penalties include reduced or no credit for submitted work, a failing grade in the class, a note on your official transcript that shows you were punished for cheating, suspension, expulsion and revocation of already awarded degrees. The university requires that the implementation of any of these penalties for violations of the academic integrity policy be reported to the Dean's office.

ASU Student Code of Conduct: **<http://www.asu.edu/aad/manuals/sta/sta104-01.html>**

"The aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change and respect for the rights of all individuals."

In CSE 412, you are expected to follow the student code of conduct, especially when communicating with your peers, instructors, and teaching assistants.

Violations of the student code of conduct may result in withdrawal from the class.

- **[PREREQUISITE SATISFACTION](#)**

Each student must satisfy the course prerequisite and submit proof of prerequisite on the first day of class. If you have not satisfied the prerequisite at ASU, then you must see the instructor the first week of class with a transcript for verification purposes.

- **[INFORMATION FOR TEAM ORGANIZATION](#)**

Teams will be assigned and the project will commence the beginning of the second week of the semester. The completion of this form will facilitate the organization of teams.