Princeton University

Syllabus

CS425 - "Database Systems"
Spring Term - 1995

Description: The objective of the course is to study both the theoretical and practical aspects of database systems. Some of the topics covered are: levels of abstraction and views of data; file organizations; external sorting methods; data models: entity-relationship, hierarchical, relational; examples of query languages: relational algebra and calculus; relational databases: data dependencies, normal forms, design algorithms; concurrency; transactions, object-oriented databases, and distributed databases.

Time : 03:00-4:20pm Tue/Thu
Location : Room CS102

Instructor : William T. O'Connell, Ph.D.
Phone : (908) 582-3093 (Bell Labs) M-F

Office hours will be : 2:00-3:00pm Tue/Thu, Rm CS407
(or) by appointment

I. Text

- Elmasi, Navathe, "Fundamentals of Database Systems", 2nd edition, Franklin-Cummings Publishing Co., 1994

II. Supplimental Text

- Korth, Silberschatz, "Database Systems", 2nd edition, Franklin-Cummings Publishing Co., 1992

III. Objectives

1. Understand basic database system concepts.
2. Understand the three basic data models with addition to examining recent trends.
3. Examine the fundamentals of database design.
4. Overview file organization and indexing methods.
5. Understand transaction processing.
6. Examine concurrency and recovery issues.
7. Overview object-oriented and distributed databases.
8. Examine case studies on Teradata and the BeSS object store.

IV. Course Requirements/Procedures

To successfully complete this course you must:

1. Pass a comprehensive final exam.
2. Pass mid-term exam.
3. Accurately complete all programming assignments.
4. Attend class on a regular basis.
5. Successfully complete a group project.

V. Class Procedures

The class time will be spent lecturing on new material, discussing assigned reading assignments, discussing assignments and project, and answering any questions that are appropriate for the course. Excessive absences tend to lower a student's grade. Attendance is highly encouraged, If you are absent, arrive late, or leave early from any class, you are responsible for the material. Attendance <u>does</u> count towards your grade.

VI. Class Participation

You are expected to think independently and actively participate in the class sessions by asking meaningful questions. Your class participation should enhance the quality of the course and provide a beneficial learning experience for all students in the course.

VII. Assignments / Project

You will be given written assignments periodically throughout the course. The due date and grading for each assignment will be indicated when the assignment is discussed. Assignments turned in late will receive a 5% penalty. If you are falling behind or are experiencing difficulty, it is your responsibility to visit me and seek assistance; I welcome and encourage appointments. The written assignments will each contain 2-5 problems. The group project consists of an implementation aspect of databases along with a 2-5 page write-up discussing results and observations. The format will be discussed in class.

VIII. Examinations

You will be given a mid-term and final examination. Both exams are cumulative, however, the most recent material will be emphasized. The exams will be give during regular class times as indicated by the class schedule. You must arrange for a make-up exam before the scheduled exam and this is at the discretion of the instructor. If the mid-term exam is impractical, the points for that exam will be added to the final. The final must be taken.

IX. Plagiarism

You are not to represent another's work as your own, in case programming assignments and write-ups. You will not receive credit for any plagiarized assignment and not be able to make it up.

X. Cheating

Cheating will result in an automatic failure.

XI. Grading

Final	**300**
Mid-Term	**300**
Project	**200**
Assignments	**150**
Participation	**50**
Total	**1000 Points**

RANGE	**GRADE**
(1000-900)	**A**
(899-840)	**B**
(839-750)	**C**
(749-620)	**D**
(619-)	**F**

If you are taking the course for Credit/No-Credit you must accumulate at least 750 points to receive Credit, otherwise you receive No-Credit.