



## Introduction to Database Systems



CS432

Instructor  
Jayavel Shanmugasundaram



## Course Information

- ❖ Information is one of the most valuable resources in this information age
- ❖ How do we effectively and efficiently manage this information?
  - Relational database management systems
    - Dominant data management paradigm today
  - 6 billion dollar a year industry
    - You will see this in the job market!



## People

- ❖ Instructor
  - Jayavel Shanmugasundaram
- ❖ TAs
  - Rohit Ananthakrishna
  - Chavdar Botev
  - Chris Re
  - Ilya Rifkin



## Access to Instructor and TAs

- ❖ Office hours
  - Posted on course web site
  - <http://www.cs.cornell.edu/courses/cs432>
- ❖ Course newsgroup
  - Monitored by TAs
  - Reply within 24 hours on weekdays, 48 hours on weekends
- ❖ TA mailing list
  - [cs432ta@cs.cornell.edu](mailto:cs432ta@cs.cornell.edu)
  - Do not directly email TAs



## Course Structure

- ❖ Three components
  - Class lectures (0%, but attendance is crucial ☺)
  - Assignments (60%)
  - Examinations (40%)



## Class Lectures

- ❖ Textbook: “Database Management Systems”
  - By Raghu Ramakrishnan and Johannes Gehrke
  - Required textbook
- ❖ Syllabus
  - Defined by class lectures
  - Not defined by textbook

## Prerequisites

- ❖ Courses
  - CS212 (Computers and Programming)
  - CS312 (Structure and Interpretation of Computer Programs)
- ❖ Programming expertise
  - C++ programming (large projects!)
  - Can probably pick it up if you are familiar with Java/C
  - First assignment should help you decide!

## Course Structure

- ❖ Three components
  - Class lectures (0%, but attendance is crucial ☺)
  - Assignments (60%)
  - Examinations (40%)

## Assignments

- ❖ Build components of a simple relational database system
  - Should have a working system at the end of the course
  - We will provide a lot of stubs
- ❖ Six assignments
  - Buffer manager (10%, C++ programming)
  - SQL (5%, no programming)
  - B+-trees (20%, C++ programming)
  - Joins (10%, C++ programming)
  - Relational operators (5%, no programming)
  - Recovery (10%, C++ programming)

## Assignment Policies

- ❖ Non-programming assignments have to be done individually
- ❖ Programming assignments can be done with a partner
  - Liberal divorce laws!
  - Can do project alone, but not recommended
- ❖ Course management system
  - Download assignment
  - Create groups
  - Submit assignments
  - View grades

## Assignment Policies (contd.)

- ❖ No late submissions
  - Will receive 0% of grade for late submissions
  - No exceptions (assignments handed out well in advance of deadline)
- ❖ Regrade requests
  - Within 7 days after graded assignment is handed out
  - Hard deadline

## Course Structure

- ❖ Three components
  - Class lectures (0%, but attendance is crucial ☺)
  - Assignments (60%)
  - Examinations (40%)

## Exams

- ❖ Mid-term exam (15%)
  - 24 October 2002, 7:00-9:30pm
  - Closed book exam
- ❖ Final exam (25%)
  - Examination period
  - Closed book exam
  - Cumulative with emphasis on second half
- ❖ Do not schedule other events on these days

## Relationship to CS433

- ❖ CS432 is about database *internals*
  - DB2, Oracle, Microsoft SQL Server, ...
- ❖ CS433 is about database applications
  - Amazon, Ebay, ...
- ❖ Complementary
  - Suggest that you take both
  - **Can** take CS432 without taking CS433
  - **Cannot** take CS433 without taking CS432

## Is CS432 a lot of work?

- ❖ Yes!
  - Probably one of the most substantial programming courses
  - Much of the material is probably new to you
- ❖ Then why on earth should I take this course?
  - Intellectual argument
    - ◆ Big conceptual ideas
    - ◆ Meeting of theory and practice
  - Utilitarian argument
    - ◆ Many, many real applications (digital libraries, web, ...)
    - ◆ Job market!

## Reminder

- ❖ Complete academic integrity form
  - Need to hand this in for your course management system account
- ❖ Shop around for partners
  - First assignment will be handed out on Monday