DBMS Models and Implementation Techniques
Course Overview

Instructor: Sharma Chakravarthy
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The University of Texas at Arlington

Instructor Information

- Instructor: Sharma Chakravarthy
- My course web site: https://wweb.uta.edu/faculty/sharmac/
- Black board: https://elearn.uta.edu
- My Research web site: http://itlab.uta.edu/sharma
- My contact:
  Room: ERB 632
  Email: sharma@cse.uta.edu
  Phone: 817/272 2082
- It is your responsibility to check for material (announcements, notes, homework, and quiz/exam details) added to the course web site and black board

TA Information

- TA: Mr. Abhishek Santra
- Email: Abhishek.santra@mavs.uta.edu
- Office: ERB 506; email: abhishek.santra@mavs.uta.edu
- Office hours: Mon/Wed: 10 am to Noon + by appointment

Course Notes and Project Information

- Course notes will be posted at my course web site: https://wweb.uta.edu/faculty/sharmac/
- Please check periodically for updates
- Project information and submission will be using the blackboard (https://elearn.uta.edu). Please familiarize yourself with the blackboard, especially project submission. Make sure you click the submit button and get confirmation
- We will allow ONLY 3 attempts at project submission and the last one will be automatically used! So, be careful
- No late submissions! bb will not accept late submissions
Distance education contacts

- If this course is also offered as a distance education course
- Website address: www.uta.edu/engineering/distance
- For technical problems email: login.problems@engineering.uta.edu

Other Information

- Each of you have to send me and the TA an email as follows: “For course CSE 4331/5331, I will follow the UT Arlington honor code and all my submissions (projects and tests/exams) will conform to the UT Arlington standards for academic integrity (including UTA honor code)”
- Cheating, collusion, and plagiarism will be seriously dealt with (an automatic Fail grade)
- If you have difficulty, come see us but do not resort to the above

Academic Honesty

What Constitutes Scholastic Dishonesty?

1. Cheating

- Copying another’s test of assignment.
- Communication with another during an exam or assignment (i.e. written, oral or otherwise).
- Giving or seeking aid from another when not permitted by the instructor.
- Possessing or using unauthorized materials during the test.
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key.

2. Plagiarism

- Using someone else’s work in your assignment without appropriate acknowledgement.
- Making slight variations in the language and failing to give credit to the source.
- Copying materials from the Internet without citing the source.
- Using code/material from previous years without acknowledging the source.

What Constitutes Scholastic Dishonesty?
Academic Honesty

What Constitutes Scholastic Dishonesty?

3. Collusion

• Without authorization, collaborating with another when preparing an assignment or homework or other requirements of the course
• You can discuss the project on bb, but cannot submit the same code or slightly modified code.
• Make sure your code base is different!

Overview

• This is a second course on Database management systems at the CSE department at UTA
• The first course (CSE 5330) deals with the application/user viewpoint
• The emphasis of this course is on understanding the modules of a DBMS, system aspects and implementation techniques

Organization of the course

• 4 modules
  - Storage and indexing
  - Concurrency control and recovery
  - Cloud computing, map/reduce, and NoSQL
  - Query optimization including buffer management
• 3 implementation projects (Java and C++)
• 3 tests/quizzes (in-class, closed book/notes)
• Home works are assigned (and graded if submitted) to help prepare for quizzes/exams

How to do well on the course

• Attend all the lectures
• Do follow up reading before and immediately after the lecture (not 1 day before the exam)
• Come prepared and ask questions in the class
• Make the class interactive
• There are NO dumb or trivial questions; all questions are important
• Solve all homework problems yourself and submit it
• Make use of my (and TA’s) office hours
• Challenge yourself and me!
Project advise

- Please start on the project immediately (if we give 4 weeks, it means that it requires 3 weeks NOT 3 days)
- Set milestones for the project and follow them.
- If you desire, I can set milestones and make them mandatory
- Use debugging tools (xdb). Cannot debug by using only print statements
- Use makefile; these projects are not one file compilations
- Need to understand the system; similar to what you will encounter in a work place

What is assumed

- Relational mode
- Relational algebra, functional dependencies, normal forms
- Overview of Storage management
- SQL
- Overview of query processing
- Overview of Transaction management
- Java and C++ familiarity
  - Threads
  - Semaphores
  - mutexes

Beyond this course …

- If you get excited about databases and related areas, there are a number of courses you can take beyond this course.
- If you are interested in doing a thesis (MS/PhD) in the general areas of Databases, social network analysis, cloud computing, information integration, mining, complex event and stream processing, information security – stop by and talk to me.
Questions!