Introduction to Database Systems

CS 4433: Spring 2020
Department of Computer Science
Oklahoma State University

January 13, 2020

Class Time

Monday, Wednesday and Friday 1:30 PM - 2:20 PM.

Location

Stillwater - Classroom Building 106A
Tulsa - Main Hall (Tulsa) 2203

Instructor Information

- Instructor: Esra Akbas
- Email: eakbas@okstate.edu
- Office hours & Location: Monday - 2:30 - 3:30 PM, Wednesday - 11:00 AM - 01:00 PM & MSCS 216

TA Information

- TA: Farhan Tanvir
- Email: ftanvir@okstate.edu
- Office Hours & Location: Thursday - 2:30 - 3:30 PM & MSCS 311

Class Homepage

Course Website: `www.cs.okstate.edu/~eakbas/db2020.html`

This website contains all information related to this class including lecture slides, assignments, extra material handed out during class and links to some useful resources. The class will also have a Canvas page which will be used to post grades and for sending out announcements.

Course Objectives

Upon successful completion of this course of study, the student will be familiar with:

- The basic principles of designing and implementing an application using relational database systems;
- How a relational database application works for designing (the schema for), mapping and querying structured data;
- The database language SQL
- Elementary e-commerce a web-based database system development

Course Description

As the first introductory course for databases, COP4710 studies the fundamentals of relational database management systems (RDBMS). Materials include, but are not limited to, the ER (Entity-Relationship) model and its mapping to the relational data model, the algebraic language in the relational data model and its relationship to the commercial relational query language: SQL, database design that conforms to different normal forms, database applications, database indexing, transaction management, recovery and other advanced topics. Furthermore, students will participate in a semester-long project and build a web-based database system (e.g., an online bookstore) starting with a customer specification. In summary, this course is about the principles of designing and developing applications using relational database systems.

Textbook

The recommended textbook for the class is "Database Systems: The Complete Book 2nd edition, by Hector Garcia-Molina, Jeff Ullman and Jennifer Widom. ISBN: 978-0131873254, Prentice Hall, 2008". In addition to this you can use the lecture notes, third party online documentation and extra reading material handed out in class.

Prerequisites

CS 2133-Computer Science II
Students should come with good programming skills.
If you are not sure whether you have the right background, please contact the instructor.
Note: We will not cover programming-specific issues in this course.

Format and activities

The course is lecture-based with two examinations (midterm and final). There are individual assignments and a group-level programming project.

- **Lectures and Class Participation:** We strongly encourage (and appreciate!) students to attend classes, because effective lectures rely on students' participation to raise questions and contribute in discussions. We will strive to maintain interactive class discussions if possible. We will provide lecture notes before class, which will be posted on the Schedule page.

- **Questions:** We encourage students discussing their questions and problems first with their group peers and classmates. This way, you can get immediate help and also learn to communicate "professionally" with your peers. In any case for more thorough discussion, come to the office hours of TA's and the instructor's. Any announcement will be posted on the course page and Canvas. Make sure to check it frequently enough to stay informed.

- **Assignment**: There will be a few written assignments spaced out over the course of the semester. All the assignments should be done individually by the students. Assignments should be submitted before the due dates on Can vas.

- **Projects**: There will be a semester-long project, which involves significant database application programming. The project will be structured with several milestones due in the course of the semester, leading to a demo and write-up near the end of the semester.

Grading Policy

The final course grade will be computed as follows:

Assignments	20%
Midterm	15%
Final	30%
Project	35%

Requests for regrading should be within a week of grades being posted on Canvas.

The final grade will be calculated according to your numerical average as shown in the table below.

A	90-100
B	80 - 89
C	70 - 79
D	60 - 69
F	0 - 59

Late Assignment Policy

- There will be %30 penalty for 1 day late submission.More than 1 day Late assignments will not ordinarily be accepted. If, for some compelling reason, you cannot hand in an assignment on time, please contact the TA or instructor as far in advance as possible. Written assignments or project deliverance are due at the beginning of a class, you should hand them in at the beginning of the class;

- No make-up exams (except under extremely unusual circumstances).

Academic Dishonesty

The Computer Science departmental policy for academic dishonesty and misconduct applies to this class. In addition, a student attempting to gain unfair advantage by keeping an examination paper longer than the time permitted is guilty of academic misconduct. Assignments/projects/exams are to be done individually, unless specified otherwise. It is a violation of the Academic Honor Code to take credit for the work done by other people. It is also a violation to assist another person in violating the Code. Examples of cheating behaviors include:

- Discuss the solution for a homework question.

- Copy programs for programming assignments.

- Turning in group work for assignments where you are expected to work as an individual.

- Use and submit existing programs/reports on the world wide web as written assignments.

- Submit programs/reports/assignments done by a third party, including hired and contracted.

- Plagiarize sentences/paragraphs from others without giving the appropriate references.

Penalty for violating the Academic Honesty: Students who do not comply with the described policy will receive a grade of F in the course. Furthermore, the case will be reported to the University Officials

Accommodation for Disabilities

The Computer Science departmental policy for students with disabilities applies to this class. Anyone who has a need for examinations by special arrangements should see the instructor as the earliest possible opportunity during scheduled office hours.

Syllabus Change Policy

This syllabus is a tentative guide for the course and is subject to change. You'll be informed in class if there's a change in the syllabus.
*Syllabus Attachment: `www.cs.okstate.edu/~eakbas/cs4433/SyllabusA.pdf`