Syllabus Winter 2018

CS338: Computer Applications in Business: Databases

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Course Website

https://cs.uwaterloo.ca/~fkerschb/cs338/

The course website will be available at the start of the first week of classes and it will always contain the most up-to-date information possible regarding the course. We will also heavily use Piazza.

https://piazza.com/uwaterloo.ca/winter2018/cs338/home

You are responsible for all announcements posted on the course website and piazza course webpage.

Classes

- Lectures: TTh 8:30am - 9:50am, STC0010

Prerequisites

One of CS 230, 234, 241, 330; Not open to Computer Science students.

Antirequisites

CS 348, 448, ECE 456
Short Description

A user-oriented approach to the management of large collections of data. Methods used for the storage, selection and presentation of data. Common database management systems.

Course Objectives

The main objective of this course is to introduce students to fundamentals and use of database technology by studying databases from the viewpoint of a database user. It teaches the use of a database management system (DBMS) by treating it as a black box, focusing only on its functionality and its interfaces.

Marking

- Midterm 1 25%
- Midterm 2 25%
- Final 50%
- Piazza Bonus 5%

For each of the exams, there will be a deadline for appealing your grade (usually one week after they are returned in class). No appeals will be considered after this deadline unless there is a medical or other excuse for absence during the appeal period.

One bonus point will be granted for each answer to another’s student question on Piazza that has been endorsed by a TA or the instructor. A maximum of five bonus points can be earned.

Course Outline

This outline is subject to change during the course.

- Week 1: Introduction to database management, Relational Data Model
- Week 2: Constraints and Updates, SQL Basics
- Week 3: Aggregate and Group Queries, Nested Queries
- Week 4: Data and schema modifications
- Week 5: Midterm 1 Exam, Null values
- Week 6: Views, Functional Dependencies
- Week 7: Entity-Relationship (ER) model, Extended ER (EER) model
- Week 8: ER-to-relational mapping
- Week 9: Midterm 2 Exam, DBMS Architecture
- Week 10: Transaction support in SQL, Concurrency & Recovery
- Week 11: Query Processing
- Week 12: Database security and privacy, Database warehouses
Policies

The general Faculty and University policy:

• Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. Check the Office of Academic Integrity’s website for more information. All members of the UW community are expected to hold to the highest standard of academic integrity in their studies, teaching, and research. This site explains why academic integrity is important and how students can avoid academic misconduct. It also identifies resources available on campus for students and faculty to help achieve academic integrity in and out of the classroom.

• Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 – Student Petitions and Grievances Section 4. When in doubt please be certain to contact the department’s administrative assistant who will provide further assistance.

• Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about ”rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. For information on categories of offenses and types of penalties, students should refer to Policy 71 – Student Discipline. For typical penalties, check Guidelines for the Assessment of Penalties.

• Avoiding Academic Offenses: Most students are unaware of the line between acceptable and unacceptable academic behaviour, especially when discussing assignments with classmates and using the work of other students. For information on commonly misunderstood academic offenses and how to avoid them, students should refer to the Faculty of Mathematics Cheating and Student Academic Discipline Policy.

• Appeals: A decision made or a penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 – Student Appeals.

Note for Students with Disabilities

AccessAbility Services located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility at the beginning of each academic term.