CS 348: Introduction to Database Management

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Course Objective

- Why do we use a database?
- How do we use a database?
- How do we design a database?
- Brief introduction to how database systems work.
  - Precursor to CS 448: Database Systems Implementation, in which students get a detailed look at how database systems work, with hands on experience

Course Information

- Intended Audience
  - CS 348 is a course for CS majors
- Related Courses
  - Prerequisites: SE 240 or CS 240; CS students only.
  - Antirequisites: CS 338, CS 448, ECE 456.
  - Successors: CS 448

Textbook and References

- Ramakrishnan and Gherke
  Database Management Systems (3rd edition)
  McGraw Hill, 2000
  - On reserve in DC library
- Other references on course home page

- Slides that come with the text book + other slides

Electronic Resources

- Course Home Page:
  - http://www.student.cs.uwaterloo.ca/~cs348
    Will be up later today
  - Slides for lectures will be added to home page
  - Also accessible from instructor's home page
- Course Newsgroup:
  - uw.cs.cs348
  - **All students expected to read newsgroup frequently**
  - **Post questions regarding assignments and general interest questions (instead of emailing)**
- Course E-mail:
  - cs348@cs.uwaterloo.ca
  - For issues pertaining only to you or your group

Schedule

- Week 1: Introduction (Ken Salem)
- Week 2: Relational Model and Basic SQL
- Week 3: Relational Algebra and Calculus
- Week 4 and 5: More SQL
- Week 6: SQL APIs
- Week 7: Entity-Relationship Modeling
- Week 8: Reading week. No lectures.
- Week 9: Database Design and Normalization
- Week 10: Midterm + Security and Authorization
- Week 11: Query Execution and Database Tuning
- Week 12: Transactions
- Week 13 and 14: Advanced Topics

Grading

- 20% Assignments
- 20% Midterm
- 40% Final
- 20% Group Project

Assignments

- Three assignments to be done individually
- Equally weighted

- Assignment 1 due Friday February 2
- Assignment 2 due Friday February 16
- Assignment 3 due Friday March 16

- All assignments due 5:00pm
- **No late assignments will be accepted. Plan ahead.**

Project

- Term project to be done in groups of 2-4 (your choice)
- Design and implement a database application
- Specification out on February 6
- Due the last day of class
- Most of the material needed for the project will be covered up to week 9
- Deliverables: Report + code

Exams

- Midterm exam
  - **Tuesday March 6, from 7:00pm to 9:00pm. Room: TBD**
  - **Please let me know ASAP if you have a conflict with this time slot. Send me an e-mail specifying the details of the conflict. If needed, I will schedule a makeup exam earlier that day.**
- Final exam
  - TBD

Plagiarism

- Please be aware of the UW policy on plagiarism
- Nice explanation of plagiarism on-line
  - http://arts.uwaterloo.ca/arts/ugrad/academic_responsibilty.html
- Read this and understand it
  - Ignorance is no excuse!
  - Questions should be brought to me
- Plagiarism applies to problem solutions and code
- You are free (even encouraged) to exchange ideas but ***no sharing solutions or code***

Plagiarism

- Penalties
  - First offence
    - -100% for that part of the course and reporting to the Associate Dean for Undergraduate Studies
  - Second offence
    - Referral to the Associate Dean for Undergraduate Studies
    - Expulsion is possible