

CIS*3530 Data Base Systems and Concepts (Fall 2016)

Instructor

Fangju Wang, Reynolds 306, X52939, fjwang@uoguelph.ca

Advisory Hours

Monday 1:00pm-2:00pm

Thursday 1:00pm-2:20pm

Teaching Asistant

Name: Harshavardhan Gadgil, and Abdullah Abdullah

Email: ta3530@socs.uoguelph.ca advisory hours: TBA.

Calendar Description

This course is a study of data organization and data management principles with the perspective of analyzing applications suitable for implementation using a DBMS. This will include an analysis of several data base models, query specification methods, and query processing techniques. Overview of several related issues including concurrency control, security, integrity and recovery. Students will demonstrate concepts through project assignments.

Course Objectives and Topics

This course is designed to provide the fundamental concepts of **conventional** database systems, including database models and modeling, relational database theory, database design methodology, query processing, and concurrency control. Students will also learn skills of system analysis, database design and database programming. Topics may include

- Entity-Relationship data modeling
- The relational database model
- Relational algebra and calculus
- Advanced components in SQL
- Relational database
- Transaction management and concurrency control
- Query optimization
- Database security

Textbook:

- H. Garcia-Molina, J. D. Ullman, and J. Widom, *Database Systems the Complete Book* (2nd Edition) Prentice Hall, 2009.

References:

- C. J. Date: *An Introduction to Database Systems (8th Edition)*, Addison-Wesley Publishing Company, 2003.
- A. Silberschatz, H. F. Korth, and S. Sudarshan: *Database System Concepts (6th Edition)*, WCB/McGraw-Hill, 2011.

Course Web Page URL

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Assignments and Examinations

- Four assignments: $10\% + 10\% + 10\% + 10\% = 40\%$
- Midterm examination: 20%
- Final examination: 40%

The **late policy** for assignments: **NO** late assignment will be accepted.

Assignment and Examination Dates

- Assignment due dates:
 1. Assignment 1: October 6, 2016
 2. Assignment 2: October 20, 2016
 3. Assignment 3: November 17, 2016
 4. Assignment 4: December 1, 2016
- Midterm examination: Friday, October 28, 2016 (2:30pm – 3:20pm).
- Final examination: Thursday, December 15, 2016 (11:30am – 1:30pm).

Note

- Each assignment must be completed **individually**.
- All cases of **academic misconduct** are handled by the College Dean, in conjunction with the School Director. For details please see related pages in the *University of Guelph Undergraduate Calendar 2016-2017*.
- Requests for academic consideration because of illness or of a compassionate nature must be made in writing and accompanied by certification whenever possible.
- To appeal a mark of an assignment you must do so within two weeks after it is returned.