

CIS*3530 Database Systems and Concepts

Fall 2018



Instructional Support

Section 01: LEC MWF 02:30PM - 03:20PM ANNU 156	
Instructor:	Ritu Chaturvedi
Office:	Reynolds 2211
Email:	ta3530@socs.uoguelph.ca
Office hours:	Friday 10:00 - noon
Teaching Assistants:	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 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 and recovery

Textbook

- Ramez Elmasri, Shamkant B. Navathe: Fundamentals of Database Systems, Pearson, 6th Edition, 2010.

References

- C. J. Date: An Introduction to Database Systems (8th Edition), Addison-Wesley Publishing Company, 2003.
- H. Garcia-Molina, J. D. Ullman, and J. Widom, Database Systems (2nd Edition) Prentice Hall, 2009.

Course Web Page URL: moodle.socs.uoguelph.ca/

Course credit and prerequisites:

- Course credit: 0.5
- Prerequisites: CIS*2520

Important Dates:

- Thursday, September 6th: First day of class
- Monday, October 8th: Thanksgiving, NO CLASSES / NO LABS, classes rescheduled to Friday Nov 30th
- Tuesday, October 9th: Fall day break, NO CLASSES / NO LABS, classes rescheduled to Friday Nov 29th
- Friday, November 2nd: 40th Class Day- last day to drop
- Friday, November 30th: Classes conclude

Assessment

- Three assignments: 5% + 7% + 8% = 20%
- Five Labs: 10% (2% each)
- Two quizzes: 4% + 4% = 8%
- Midterm examination: 22%
- Final examination: 40%

Assignment and Examination Dates

- Assignment due dates:
 - Assignment 1: October 3rd (Wednesday), 2018
 - Assignment 2: November 7th (Wednesday), 2018
 - Assignment 3: November 28th (Wednesday), 2018
- Quiz1: September 24th (Monday), 2018
- Quiz2: November 26th (Monday), 2018
- Midterm examination: To be decided (Oct 26th or Oct 27th)
- Final examination: TBA

Tentative Schedule: Note that this is only a tentative schedule – it is subject to change depending on timing.

<i>Week</i>	<i>Topic</i>	
Week 0 (Sept 6 th)	Introduction to the course	
Week 1 (Sept 10 th)	Introduction, Relational Model	
Week 2 (Sept 17 th)	Relational Algebra	Lab 1 – RA (2%)
Week 3 (Sept 24 th)	SQL DML	Lab 2 - DML (2%)
Week 4 (Oct 1 st)	SQL DML, Constraints in SQL	Lab 3 – DML (2%)
Week 5 (Oct 8 th)	No Class on Oct 8th Design I (ER Modeling)	
Week 6 (Oct 15 th)	Design I (ER Modeling)	
Week 7 (Oct 22 nd)	Design II (Normalization)	
Week 8 (Oct 29 th)	Design II (Normalization), SQL DDL	Lab 4 – DDL (2%)
Week 9 (Nov 5 th)	Stored procedures, triggers	
Week 10 (Nov 12 th)	Transaction Management	Lab 5 – Stored procedures (2%)
Week 11 (Nov 19 th)	Database Recovery	
Week 12 (Nov 26 th)	Query Optimization Final Exam preparation	

Course Grading Policies

Missed Labs: If you miss a lab due to **documented** grounds for granting academic or religious accommodation, the weight of the missed assessment will be added to the final exam. There will be no makeup labs and you may not attend a lab section other than the one in which you are registered.

Late Assignments: Late assignments will not be accepted. There are no makeup assignments. Assignments submitted after the due date are assigned a grade of 0.

Regrades: Regrading can be done in 2 steps:

Step 1: Requests for regrades of assignments 1 and 2 and lab exams must be emailed to ta3530@soecs.uoguelph.ca within 5 business days of receiving your mark. The request must have the word **regrade** and the name of the assignment or exam in the subject line and must contain a detailed description of why you feel the assignment should be regraded.

Step 2: You will then book an appointment for your assignment/exam to be regraded in person. It is important to note that your assignment/exam will not be regraded unless you meet a TA in-person.

Note: There is no regrade option for Assignment 3.

Note: It is important to note that a regrade is not a chance to redo the assignment. The original submission will be graded.

Missed Assessments: If you are unable to meet an in-course requirement due to medical, psychological, or compassionate reasons, please make an appointment to meet your course instructor. Please see below for specific details and consult the undergraduate calendar for information on regulations and procedures for Academic Consideration:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Accommodation of Religious Obligations: If you are unable to meet an in-course requirement due to religious obligations, please email the course email address **within two weeks of the start of the semester** to make alternate arrangements. See the undergraduate calendar for information on regulations and procedures for Academic Accommodation of Religious Obligations:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-accomrelig.shtml>

Communication & Email Policy

Please use lectures, lab sessions, and the discussion forum as your main opportunities to ask questions about the course. Questions that are specific to your particular situation may be emailed to ta3530@soecs.uoguelph.ca and will be answered by one of the instructional team. Extremely private communication should be conducted in person by making an appointment with the course instructor.

Major announcements will be posted to the course website and the discussion forums. **It is your responsibility to check the course website regularly.** As per university regulations, all students are required to check their <mail.uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of

Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. All students who take a SOCS course must pass the **Academic Integrity Self Test**.

For educational purposes, instructors impose conditions on assignments that may limit students' permission to collaborate with others or to utilize external sources (including, but not limited to, software, data, images, text, etc.). Any permitted utilization must be done with proper references. Aiding and abetting is a punishable offence; students must be careful not to help others commit offences by giving out solutions or providing to access computer accounts. Instructors may use automated tools to detect possible cases of academic misconduct.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

The SOCS Academic Integrity Unit:

<http://moodle.socs.uoguelph.ca/course/view.php?id=2> Login with your central login credentials.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability, or for a short-term disability should contact Student Accessibility Services (SAS) as soon as possible.

For more information, contact SAS at [519-824-4120](tel:519-824-4120) ext. 56208 or email csd@uoguelph.ca or see the website: <http://www.uoguelph.ca/csd/>

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.