



THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course number: ACS-3902-002
Course name: Database Systems
Course web page: <http://courses.acs.uwinnipeg.ca/3902-002/>

1 Instructor Information

Instructor: Jeanette Bautista
E-mail: je.bautista@uwinnipeg.ca
Office hours: Fridays 3:45 – 4:45 pm Office: 3C08B
Class meeting time: Tuesdays and Thursdays 4:00 – 5:15 pm Room: 3D04

2 Important Dates

1. First class: Tuesday, January 8, 2019
2. Reading week: February 17 – 23, 2019 (no classes)
3. Tests: Thursday, February 7, 2019
Thursday, March 7, 2019
4. Last class: Tuesday, April 2, 2019
5. Final exam: Tuesday, April 16, 2019
7. Final withdrawal date (without academic penalty): Friday March 15, 2018.
A minimum of 20% of the work on which the final grade is based will be evaluated and available to the student before this date.

3 Course Objectives/Learning Outcomes

- Introduce theory of relational and NOSQL models - emphasis on relational.
- Provide the foundation for database design required by systems analysts, designers, programmers and data modelers.
- Introduce techniques utilized in the various stages of a database software development cycle.
- Cover EERDs, database languages, functional dependencies, normalization, physical data storage.

4 Evaluation Criteria

1. Assignments (25%)
 - All assignments are to be completed individually
 - There will be 5 assignments worth 5% each
 - Due by midnight on due dates
 - Late assignments are accepted, up to 1 day with 25% off per day
 - The details of submission procedure will be stated in each assignment
2. Tests: Test 1 (10%) Test 2 (15%)
 - During regular class time on February 7 and March 7
 - see #3 below
3. Final Exam (50%)
 - The final exam covers all material discussed in the course
 - Should illness prevent participation in a test or examination, a medical certificate from a certified physician must be supplied before any adjustments are considered.

Students should contact the instructor as soon as possible if extenuating circumstances require missing an assignment, test or examination.

5 Final Letter Grade Assignment

Historically, numerical percentages have been converted to letter grades using the following scale. However, instructors can deviate from these values based on pedagogical nuances of a particular class, and final grades are subject to approval by the Department Review Committee.

A+	90 – 100%	C+	65 – 69%
A	85 – 89 %	C	60 – 64%
A-	80 – 84%	D	50 – 59%
B+	75 – 79%	F	below 50%
B	70 – 74%		

6 Exam Requirements

- Photo ID is required for the final exam.
- The use of computers, calculators, phones, or other electronic devices is not permitted on exams.
- Midterm and final exams are closed book.
- Unless a medical certificate is provided, no accommodation is made for missed exams.

7 Services for Students

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential <http://www.uwinnipeg.ca/accessibility>.

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2018-19 Undergraduate Academic Calendar.

All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found online at www.uwinnipeg.ca/respect.

8 Misuse of Computer Facilities, Plagiarism, and Cheating

Academic dishonesty is a very serious offense and will be dealt with in accordance with the University's policies. Be sure that you have read and understood Regulations & Policies #8, in the 2018-2019 UW Undergraduate Academic Calendar available at <http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf> and the UW academic misconduct policy available at <http://pace.uwinnipegcourses.ca/sites/default/files/pdfs/publications/Academic%20Misconduct%20Policy.pdf>

Additional information is available at University of Winnipeg library video tutorial "Avoiding Plagiarism" <https://www.youtube.com/watch?v=UvFdxRU9a8g>

Avoiding Academic Misconduct. Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) involves "aiding and abetting" plagiarism. Students who do this can be charged with Academic Misconduct.

Avoiding Copyright Violation. Course materials are owned by the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor /presenter before photographing or recording slides, presentations, lectures, and notes on the board.

9 Required Textbook / Reading List

- R. Elmasri and S. B. Navathe, *Fundamentals of Database Systems*, 7th edition, Addison-Wesley (ISBN# 978- 0-133970777)
- Class Notes will be available at <http://courses.acs.uwinnipeg.ca/3902-002/>

10 Prerequisite Information

- A grade of at least C in ACS-2913(3) (or the previous ACS-2911(3) and ACS-2912(3))
- A grade of at least C in ACS-2814(3) (or the former ACS-2914(3))

11 List of Topics to be covered (tentative)

- The relational data model and relational database constraints
- Basic SQL
- More SQL: complex queries, triggers, views, schema modification
- The relational algebra
- Data modeling using the entity-relationship (ER) model
- The enhanced entity-relationship (EER) model
- Relational database design by ER- and EER-to-relational mapping
- Basics of functional dependencies & normalization
- NOSQL Databases (MongoDB)
- File structures: hashing, indexing

[As time permits] XML, SQL programming techniques

Please see course website for tentative schedule

12 Additional Course Related Information

1. When it is necessary to cancel a class due to exceptional circumstances, instructors will make every effort to inform students via uwinnipeg email as well as the Departmental Assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms
2. Students are reminded that they have a responsibility to regularly check their uwinnipeg e-mail addresses to ensure timely receipt of correspondence from the university and/or their course instructors
3. Please note that withdrawing before the VW date does not necessarily result in a fee refund (March 15 is VW date for classes that begin in January and end in April).
4. No make-up classes scheduled
5. No classes:

December 22, 2018 - January 2, 2019	University closed
February 17-23, 2019	Mid-term reading week