



THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number: ACS-2814-003, L-073, L-074
Course Name: Applications of Database Systems
Course Webpage: <http://courses.acs.uwinnipeg.ca/2814-003/>

Instructor Information

Instructor: Dr. Mary Adedayo
E-mail: m.adedayo@uwinnipeg.ca
Office Hours: Tues/Thurs 2:30 – 4:00 pm **Office:** 3D27

Class meeting times: Mon/Wed 11:30-12:45 pm **Room:** 3D01
Lab times: L-073 Fridays 9:45-11:00 am **Room:** 3C13
L-074 Fridays 12:15-1:30 pm **Room:** 3D03

Important Dates

1. First Class: Monday, January 6, 2020
2. First Labs: Friday, January 10, 2020
3. Midterm Test 1: Wednesday, January 29, 2020
4. Reading Week (no classes): February 16 – 22, 2020
5. Midterm Test 2: Monday, February 24, 2020
6. Final Withdrawal Date¹: Friday, March 13, 2020
7. Last Class: Wednesday, April 1, 2020
8. Final Exam (Comprehensive): Monday, April 20, 2020
9. University closures:
 - Louis Riel Day: Monday, February 17, 2020
 - Good Friday: Friday, April 10, 2020

¹Final withdrawal date without academic penalty: A minimum of 20% of the work on which the final grade is based will be evaluated and available to the student before the voluntary withdrawal date.

Course Objectives / Learning Outcomes

The course introduces relational databases including their use, design, development and programming using Microsoft Access and various database design tools. Examples are taken from a number of different subject areas. Specifically, the course:

- Focuses on introductory issues of creating tables, indexes, relationships, forms, reports, queries, structured query language (SQL), importing/exporting data.

- Introduces database design.
- Introduces normalization and de-normalization of databases.
- Emphasizes hands-on experience through classroom lectures, weekly labs, and assignments.

Evaluation Criteria

1. Labs (9%)
 - Based on best 8 of 9, equally weighted.
 - No late lab submissions will be accepted.
2. Assignments (16%)
 - 4 assignments (equally weighted)
 - Assignments will be accepted up to 24 hours late with a 25% penalty.

Course Tools:

The workstations in ACS labs 3C13 and 3D03 have Microsoft Access installed. Students will need access to a computer with Microsoft Access outside of class and lab times. Database design tools will also be available in the labs.

Lab/assignment submissions:

All work is to be submitted electronically. Further details and submission procedure will be stated in each assignment.

Students are responsible for backing up and protecting their lab and assignment work.

3. Midterm Tests (25%)
 - During the regular class times on January 29 (10%) and February 24 (15%)
4. Final Exam (50%)
 - Cumulative
 - 3 hours duration

Students should contact the instructor as soon as possible if extenuating circumstances require missing an assignment, test or examination. A medical certificate from a practicing physician may be required before any adjustments are considered.

Test / Exam Requirements

- Photo ID is required for the midterm tests and final exam.
- The use of computers, calculators, phones, or other electronic devices is not permitted on exams.
- Midterm tests and final exams are closed book.

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

Required Text Book / Reading List

- Ron McFadyen, *Relational Databases and Microsoft Access, Version 3.0*, University of Winnipeg, 2017.
 - Available at www.acs.uwinnipeg.ca/rmcfadyen/CreativeCommons
- Class notes and notices will be available at <http://courses.acs.uwinnipeg.ca/2814-003/>

Optional Textbook

- Mary Anne Poatsy, Eric Cameron, Jerri Williams, and Robert Grauer, *Exploring Microsoft Access 2016 Comprehensive*, Pearson, 2017

Prerequisite Information

- There are no prerequisites, however there is a restriction that this course cannot be held with the former ACS-2914.
- ACS-2814L (lab) must be taken concurrently.

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 204-786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential.

<https://www.uwinnipeg.ca/accessibility-services>.

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 2019-20 Undergraduate Academic Calendar online at <http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf>

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 <https://www.uwinnipeg.ca/respect>.

Misuse of Computer Facilities, Plagiarism, and Cheating

Academic dishonesty is a very serious offense and will be dealt in accordance with the University's policies.

Avoiding Academic Misconduct and Non-academic Misconduct. Students are encouraged to familiarize themselves with the Academic Regulations and Policies found in the University Academic Calendar at:

<https://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf>

Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals) and 10 (Grade Appeals). Please note, in particular, the subsection of Student Discipline pertaining to plagiarism and other forms of cheating.

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf>
- Non-Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-procedures.pdf>

Misuse of Filesharing Sites. 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.

Class Cancellation, Correspondence with Students and Withdrawing from Course

When it is necessary to cancel a class due to exceptional circumstances, the course instructor will make every effort to inform students via uwinnipeg email (and/or using the preferred form of communication, as designated in this outline), as well as the Departmental Assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms.

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 the course instructor.

Please let course instructor know if you plan on withdrawing from the course. Note that withdrawing before the VW date does not necessarily result in a fee refund.

Topics to be covered (tentative)

1. Relational Databases
 - Creating databases – Table, indexes, forms, reports
 - Queries
 - Relationships and referential integrity
2. The relational model
 - Relations
 - SQL
3. Database design
 - Entity-Relation Diagrams
 - Entities, attributes, relationships
 - Mapping to relational databases, DDL
 - Normal forms
 - 1NF, 2NF, 3NF, Functional dependencies, BFNF
4. *Other topics as time permits*