THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number: ACS-2814-050, Labs 070L, 071L
Course Name: Applications of Database Systems
Course Webpage: https://nexus.uwinnipeg.ca/d2l/home/63707

Instructor Information

Instructor: Claudio Sousa
E-mail: cl.sousa@uwinnipeg.ca

Office Hours:	Tuesdays	5:00 - 6:00 pm	3D01
	Saturdays	9 – 10 am	Online by appointment only
Class meeting time:	Tuesdays	6:00 – 9:00 pm	3D01
Lab time:	L-070 Fridays	1:30 - 2:45 pm	3D03
	L-071 Fridays	2:45 - 4:00 pm	3D03

Important Dates

1. First Class:		Tuesday, September 3, 2024
2. First Lab:		Friday, September 6, 2024
3. Reading week (no classes):		October 13 – 19, 2024
4. Midterm Test:		Tuesday, October 22, 2024
5. Final Withdrawal Date without academic penalty*:		Wednesday, November 13, 2024
6. Last Class:		Tuesday, November 26, 2024
7. Last Lab:		Friday, November 29, 2024
8. Final Exam:		TBD
9. University closures:	Truth and Reconciliation Day	Monday, September 30, 2024
	Thanksgiving	Monday, October 14, 2024
	Remembrance Day	Monday, November 11, 2024
10. Make-up classes for holiday closures:		Tuesday, December 3, 2024
		Wednesday, December 4, 2024

*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

This course introduces students with limited computing experience to the principles of data management. The emphasis is on practical database experience reinforced through assignments and weekly laboratory work. Students learn to work with a workstation-based database system and are introduced to the design of databases and their implementation in relational systems. Topics include tables, queries, forms, reports, importing and exporting data, structured query language, entity relationship models, the relational data model, and normalization of databases. Examples, assignments, and laboratory work are drawn from a variety of different disciplines.

Evaluation Criteria

1. **Labs (5%)**
   - Seven (7) labs will be assigned during the duration of the course.
   - The best 6 marks shall be taken and equally weighted towards 5% of the final grade.
   - Lab due dates will be communicated via the course website as they are issued.
   - Students are not required to attend lab times in person but may find the available help from the lab assistant valuable.

2. **Assignments (20%)**
   Assignments may be available well in advance of their issue date to assist students in planning their workload/effort. Students should obtain a fresh copy of the assignment on the issue date and note that the assignment is subject to revision until the issue date. Any changes to the assignment schedule below will be communicated via Nexus.

Assignment Schedule

Item	Issued	Due (11:59PM unless otherwise noted)	% Value
Assignment 1: Conceptual Data Modeling	Tues, Sept 3	Fri, Sept 20	2.5%
Assignment 2: Logical and Physical Data Modeling, Normalization, Implementing Basic Designs in Microsoft Access	Tues, Sept 17	Fri, Oct 11	5%
Assignment 3: Creating and Implementing Your Own Database Design	Tues, Oct 1	Fri, Nov 1	2.5%
Assignment 4: Database Fundamentals: Importing Data, Queries, and Reports	Tues, Oct 29	Fri, Nov 15	5%
Assignment 5: Developing a Simple Database Application	Tues, Nov 5	Fri, Nov 29	5%

Lab & Assignment submissions:

- All work is to be submitted electronically via Nexus. Each assignment and lab will identify the required format and content of the submission (e.g., PDF, Access database).
- Students are responsible for backing up and protecting their lab and assignment work.
- The use of AI tools to generate answers for assignments or labs is prohibited for this course.

3. **Midterm Test (25%)**
   - During regular class time on Tuesday, October 22, 2024 (see Important Dates)

4. **Final Exam (50%)**
   - The final exam is cumulative and covers topics from the entire course.

Late Course Work

Coursework (assignments and labs) submitted after the deadline may be subject to up to a 20% deduction. Assignments or labs submitted more than 48 hours after the deadline **will not be accepted for credit**.

Test / Exam Requirements

- Photo ID is required for the final exam.
- The use of computers, calculators, smart watches, phones, or other electronic devices is not permitted during exams.
- Midterm and final exams are paper-based and closed-book.

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

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 2024-25 Undergraduate Academic Calendar online at http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf

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

- Relational Databases and Microsoft Access, McFadyen, R., 2017 (free online)
- Additional material (class notes, notifications, etc.) will be published on Nexus

Required Software

- Microsoft Access
    - available for installation on Windows-based computers as part of the University's Student Office 365 License
    - also available in the ASC Computer Lab located in 3D03

Pre-Requisite Information

- ACS-2814L (lab) must be taken concurrently.

Regulations, Policies, and Academic Integrity

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).

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

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/policies/docs/policies/academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/policies/docs/procedures/academic-misconduct-procedures.pdf

- About Academic Integrity and Misconduct, Resources and FAQs: https://library.uwinnipeg.ca/use-the-library/help-with-research/academic-integrity.html

Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of course work 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.

Academic Integrity and AI Text-generating Tools: Students must follow principles of academic integrity (e.g., honesty, respect, fairness, and responsibility) in their use of material obtained through AI text-generating tools (e.g., ChatGPT, Bing, Notion AI). Use of AI Tools is prohibited in this course: students may face an allegation of academic misconduct if using them to do assignments.

Non-academic misconduct: Students are expected to conduct themselves in a respectful manner on campus and in the learning environment irrespective of platform being used. Behaviour, communication, or acts that are inconsistent with a number of UW policies could be considered "non-academic" misconduct. More detailed information can be found here:

- Respectful Working and Learning Environment Policy: https://www.uwinnipeg.ca/respect/respect-policy.html,
- Acceptable Use of Information Technology Policy: https://www.uwinnipeg.ca/policies/docs/policies/acceptable-use-of-information-technology-policy.pdf
- Non-Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/policies/docs/policies/student-non-academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/policies/docs/procedures/student-non-academic-misconduct-procedures.pdf

Copyright and Intellectual Property: Course materials are the property of the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides—irrespective of format. 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, for example, photographing, recording, or taking screenshots of slides, presentations, lectures, and notes on the board. Students found to be in violation of an instructor's intellectual property rights could face serious consequences pursuant to the Academic Misconduct or Non-Academic Misconduct Policy; such consequences could possibly involve legal sanction under the Copyright Policy: https://copyright.uwinnipeg.ca/basics/copyright-policy.html

Privacy

Students have rights in relation of the collecting of personal data the University of Winnipeg

- Student Privacy: https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html
- Zoom Privacy: https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html

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 Nexus.

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. Lack of attendance or submission of course work does not constitute a withdrawal. Students must formally withdraw from the course via the University's registration system.

Topics to be covered (tentative)

Week #	Topic
1	Relational Database Fundamental Concepts, Modeling Notation, and Terminology, Conceptual Data Modeling
2	Logical Data Modeling from Requirements
3	Physical Database Design, and Basic Implementation Using MS Access
4	Database Normalization
5	Normalization (cont'd), Referential Integrity, and Constraints
6	MS-Access Data Management Fundamentals
7	**Midterm Exam**
8	Query and DML Essentials: Basic Select, Insert, Update, and Delete
9	MS Access Query Builder: Multi-Table Queries, Outer Joins, and Aggregate Queries
10	Multi-Table Data Management Screens Using Sub-Forms
11	Building a Simple Database Application
12	Exam Review

Note: A permitted or necessary change in mode of delivery may require adjustments to important aspects of course outlines, like class schedule and the number, nature, and weighting of assignments and/or exams.