



THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number: ACS-2814-052, 072L, 073L
Course Name: Applications of Database Systems
Course Webpage: <https://nexus.uwinnipeg.ca/d2l/home/>

Instructor Information

Instructor:	Claudio Sousa		
E-mail:	cl.sousa@uwinnipeg.ca		
Office Hours:	Thursdays (in person)	5:00 - 6:00 pm	3C13
	Saturdays (online, by apptmt.)	9:00 - 10:00am	online (zoom)
Class meeting time:	Thursdays	6:00 - 9:00pm	3L08
Lab time:	L-072 Fridays	1:30 pm - 2:45 pm	online (zoom)
	L-073 Fridays	2:45 - 4:00 pm	online (zoom)

Important Dates

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|---|------------------------------|
| 1. First Class: | Thurs, September 9, 2021 |
| 2. First Lab: | Friday, September 10, 2021 |
| 3. Truth and Reconciliation Day (no class): | Thursday, September 30, 2021 |
| 4. Reading Week (no classes): | October 10-16, 2021 |
| 5. Midterm Test: | Thursday, October 28, 2021 |
| 6. Remembrance Day (no class): | Thursday, November 11, 2021 |
| 7. Final Withdrawal Date w/o academic penalty*: | Tuesday, November 16, 2021 |
| 8. Makeup Class (#1 for statutory holiday) | Tuesday, December 7, 2021 |
| 9. Last Class (makeup class #2 for statutory holiday) | Wednesday, December 8, 2021 |
| 10. Last Lab: | Friday, December 3, 2021 |
| 11. Final Exam: | TBD |
| 12. University closures: | Thursday, September 30, 2021 |
| Truth and Reconciliation Day | Monday, October 11, 2021 |
| Thanksgiving Day | Thursday, November 11, 2021 |
| Remembrance Day | |

*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 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 assistance from the lab assistant valuable.

2. Assignments (20%)

- Assignments will be accepted up to 1 day late with a 20% penalty

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.

Item	Issued	Due (11:59PM unless otherwise noted)	% Value
Assignment 1: Conceptual Data Modeling	Thur, Sept 9	Fri, Sept 24	2.5%
Assignment 2: Logical and Physical Data Modeling, Normalization, Implementing Basic Designs in Microsoft Access	Thur, Sept 23	Fri, Oct 8	5%
Assignment 3: Creating Your Own Database Design	Thur, Oct 7	Fri, Oct 22	2.5%
Assignment 4: Database Fundamentals: Importing Data, Queries, and Reports	Thur, Nov 4	Fri, Nov 19	5%
Assignment 5: Developing Screens, Reports, and Basic Programs for a Simple Database Application	Thur, Nov 18	Thur, Dec 9	5%

Changes in Assignment Issuance/Due Dates

- The assignment issuance and due dates are subject to change based on class progress or unanticipated disruptions to the course schedule. Changes in these dates will be communicated in class and posted online via the course website.

Assignment Preparation and Submission

- All works must be prepared using a word processor and/or software such that assignments can be submitted electronically.
- All software required for completion of the course assignments is available in the lab. Some software is free/open-source and may be downloaded and installed on students' computers. Extensions to assignment deadlines or technical support will not be provided for problems relating to students' own computers.
- All assignments must be uploaded via the course assignment submission via the course website. Assignments submitted via email will not be accepted.
- Handwritten content may be accepted for some assignment content (e.g., written answers) but must be legible, scanned, and provided in PDF format. Preparing assignments for submission (e.g., scanning) is the responsibility of the student.

Late Course Work (Labs and Assignments), Extensions, or Missed Examinations

- Late assignments or labs (up to 72 hours late) are accepted but are subject to a 25% penalty. Assignments submitted more than 72 hours late will not be accepted for credit without a proof of a documented emergency (e.g., doctor's note).
- Requests for extensions to assignment or lab due dates well ahead of the deadline will be considered on an individual basis. Requests for extensions made within five days of the deadline will not be accepted or considered at all unless proof of mitigating circumstances is provided.
- Extensions are not granted for reasons relating to the students' own computer failures or difficulties installing or configuring software. All software required for the course is provided in ACS labs.
- *Students should contact the instructor as soon as possible* if extenuating circumstances require missing a due date or examination. A medical certificate from a practicing physician may be required before any adjustments are considered.

3. Midterm Test (25%)

- During the regular class time (see Important Dates)

4. Final Exam (50%)

- The final exam is cumulative and covers topics from the entire course.
- Students must write tests on the dates noted above. In case of emergency students must produce proper documentation such as a doctor's note for an alternative write date.

Test / Exam Requirements

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

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 or 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>

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 Textbook / Reading List

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

Prerequisite Information

- None.
- ACS-2814L (lab) must be taken concurrently

Regulations, Policies, and Academic Integrity

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

Avoiding 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>
- UW Library video tutorial "Avoiding Plagiarism"
<https://www.youtube.com/watch?v=UvFdxRU9a8g>

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.

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/institutional-analysis/docs/policies/acceptable-use-of-information-technology-policy.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>.

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/docs/copyright_policy_2017.pdf

Privacy

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

<https://www.uwinnipeg.ca/privacy/admissions-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.

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, Modeling Essentials, 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	Intermediate Queries: 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.