

Computer Science 4754

Database Systems

Fall 2026



Department of Computer Science

Instructor: Mark Hatcher

Office Hours: Mondays & Fridays 1pm, EN2032

e-mail: mhatcher@mun.ca

- include COMP2007 in the subject line
- note that I do **not** check email in Brightspace
- don't expect replies outside working hours (Monday to Friday 9am to 4:30pm)

Lectures: Monday, Wednesday, Friday 2-2:50pm, EN1051

Course Prerequisite: COMP 2004 and COMP 2007

Course Content:

We're going to look at how to build and use databases. How to model a scenario, at the conceptual and representation levels. We'll cover theory and design considerations including functional dependencies and normal forms. How to implement a database in SQL, and gain information from it using queries. We'll cover storage systems and structures, indexing, query processing and optimization, transactions and the implications of parallel systems.

Evaluation Scheme:

Type	%
Assignments (6)	30 (5% each)
Midterm Exam	30
Final Exam	40

You must obtain a score of 50% or above on both the midterm final exam to pass this course, otherwise the maximum achievable course grade will be 49%. The weighting of the either exam will not be moved.

Required Course Text:

- *Database System Concepts* 7th Edition (Silberschatz, Korth and Sudarshan)

Classes and exams will be delivered on-campus. Class slides and other course materials will be made available in Brightspace on a weekly basis. In the event that on-campus activities are suspended, classes and assessments will be delivered online, as seamless as possible.

Course Schedule (tentative):

Week Beginning	Topics	Readings
September 7th	Introduction	Ch. 1
September 14th	Relational Model	Ch. 2
September 21st	DB Design using the ER Model	Ch. 6
September 28th	Relational DB Design: Normal Forms	Ch. 7
October 5th	SQL Creating Tables and Modifying Data	(Ch. 3,4,5)
October 12th	Midterm Break 12th & 13th SQL Queries and Views	(Ch. 3,4,5)
October 19th	SQL Transactions and Triggers Complex Data Types	(Ch. 3,4,5) Ch. 8
October 26th	Physical Storage Systems Data Storage Structures	Ch. 12 Ch. 13
November 2nd	Indexing	Ch. 14
November 9th	Query Processing Query Optimization	Ch. 15 Ch. 16
November 16th	Transaction Application Development	Ch. 17 (Ch. 9)
November 23rd	Parallel and Distributed Storage Parallel & Distributed Query Processing	Ch. 21 Ch. 22
November 30th	Advanced Indexing	Ch. 24
December 7th	Review	

Assessment Schedule (tentative):

Item	Due Date
Assignment 1 Relational Algebra	Sept 28th
Assignment 2 Case Study Part 1: ERD Modelling	October 5th
Assignment 3 Case Study Part 2: Relational Schema Design	October 14th
Midterm Exam	October 19th
Assignment 4 Case Study Part 3: DB Implementation	November 2nd
Assignment 5 Indexing, Query Processing and Optimization	November 23rd
Assignment 6 Parallel and Distributed Queries and Transactions	December 4th
Final Exam	to be determined

Important Notes:

1. Memorial University of Newfoundland is committed to supporting inclusive education based on the principles of equity, accessibility and collaboration. Accommodations are provided within the scope of the University Policies for the Accommodations for Students with Disabilities (www.mun.ca/policy/site/policy.php?id=239). Students who may need an academic accommodation are asked to initiate the request with the Glenn Roy Blundon Centre at the earliest opportunity (www.mun.ca/blundon).
2. In the event of university closure on the day of an exam, the exam will be given in the next scheduled class.
3. Some assignments may require use of SQLite, which can be downloaded for free; see the course shell.
4. Assignments are due at **11:59 p.m.** on the specified date, in the specified manner. **No late assignments will be accepted. It is your responsibility to make sure that the correct files are actually uploaded or present, so check for the confirmation that your files have been uploaded.** Be aware that the files you submit for evaluation should be uploaded on or before the due date and much before the cut off time. Even if you are late by a few seconds you will not be allowed to submit your work; hence you should try to upload the files at least 15 minutes before the cut off time since your system clock is not synchronized with the CITL's system clock and the cutoff time is based on CITL's system clock. Please note that if your files have been correctly uploaded, you will get a confirmation receipt from the Dropbox tool. If you do not receive this receipt, please contact the CITL Support team (<https://www.citl.mun.ca/support/>).
5. Note that, while the due times are at 11:59pm Newfoundland Time, help will not be available after 4:30pm on the due date, or on weekends. The last few hours from 4:30pm to 11:59pm should be used to finalize your work and submit it. Any questions you may have about the lab exercise, quiz or assignment should be asked well in advance of the due date/time to allow time for help to be given.
6. If for special circumstances (such as medical or bereavement) you are going to miss an assignment or exam then you must notify your instructor **as soon as possible**. Unless there is good justification this should happen before the assignment deadline, or before the start of the exam, and in any event no later than 48 hours after the deadline/exam start. You must subsequently provide any related documentation (if required). Failure to do this can result in a mark of 0% for that work. For more information, please see the University Calendar - University Regulations - General Academic Regulations (Undergraduate) 6.7.5 (**Exemptions from Parts of the Evaluation**) and 6.15 (**Appeal of Decisions**) or consult the Registrar's Office. If the reasons for missed work are acceptable then your instructor will provide details of any alternate evaluation scheme.
7. Making a request for a deferred final exam is an exceptional event. A deferred exam can only be granted where a student has been unable to write the exam due to illness, bereavement, or other acceptable cause, duly authenticated in writing. Requests should be made by filling in the Request for Deferred Exam form, along with any required documentary proof. See here for what is required and where to submit your form: https://www.mun.ca/computerscience/ugrad/UGAdvising/registration_issues.php#deferring
8. Assignments and exams must be original and independent work. **The use of AI and other assistive technology such as Grammarly is forbidden.** Copying someone else's work or allowing your work to be copied is a serious breach of university regulations and ethics. Any and all copied material will receive the mark of 0%. **If your assignments are quite similar then it can be construed as copying.** (Even if you have done your own work but have consulted a friend as you are doing the assignment then the assignment will turn out to be quite similar.) Please see the University Calendar - General Academic Regulations (Undergraduate) - 6.12 (**Academic Misconduct**).
9. The final grade assigned for this course will be numerical. See: <https://www.mun.ca/regoff/calendar/sectionNo=REGS-0661>