

(C)ITM 500 – Data and Information Management

COURSE OUTLINE FOR 2026-2027

Semester, Section
Classroom, Class Time

Prerequisite(s): (ITM 207 or ITM 200) or in the Business Technology Management 2-Year Public Ontario College Diploma Graduate - Degree Completion Program

Antirequisite(s): CPS 510

Faculty/Contract Lecturer Information

- **Faculty/Contract Lecturer Name:**
- **Office Location:**
- **Office Hours:**
- **Phone:** (416) 979 – 5000, ext.
- **Course Website:** my.torontomu.ca (for courses using D2L)
- **Email Address:** youremail@torontomu.ca

Mode of Course Delivery: In person (Lecture)

[Academic Program Advising Contacts](#)

Chair/Director for this Course: Sameh Al Natour

Email Policy

Students are expected to monitor and retrieve messages and information sent through D2L and TMU email on a frequent and consistent basis. In accordance with the Policy on TMU Student E-mail Accounts ([Policy 157](#)), Toronto Metropolitan University (TMU) requires that any electronic communication by students to TMU faculty or staff be sent from their official university email account. Communications sent from other accounts may be disregarded.

Course Description

This course provides the students with an introduction to the core concepts in data and information management. It is centered around conceptual data modeling techniques, converting the conceptual data models into relational data models and verifying its structural characteristics with normalization techniques. The course will include coverage of basic database administration tasks and key concepts of data quality and data security. Building on the transactional database understanding, the course provides an introduction to data and information management technologies that provide decision support capabilities under the broad business intelligence umbrella.

Course Details

Teaching Methods

If you are registered in an in-person or a virtual classroom, instruction will take place at scheduled hours, following the approach outlined in D2L Brightspace. If you are registered in a Chang School Distance Education course, please follow the schedule, course outline and learning modules as outlined in D2L Brightspace.

Note: All assessments in this course, regardless of its delivery format, will be held inperson on campus. This applies to in-person, virtual, and online courses, including sections/courses delivered through the Chang School.

Course Materials

Textbook and Other Learning Materials:

Lecture:

Title: Database Systems: Design, Implementation, and Management, 13th Edition

Author(s): Carlos Coronel & Steven Morris

Publisher: Course Technology

ISBN: 978-1337627900

Price: \$81.50

Course Learning Outcomes

To acquire knowledge of and competency in the major techniques used in the analysis and design of the relational databases for business applications. Specifically, to acquire competency in developing SQL views and queries to extract relevant data to meet business information requirements and in building ERD models that support relational database logical schema design.

Upon completion of the course, students will be able to:

1. Understand and articulate the Relational Database concept and its role in business
2. Analyze data requirements for the database
3. Construct an Entity Relationship Diagram
4. Transform the ERD to a Logical Data Model
5. Understand and apply the rules of Normalization
6. Develop query commands in SQL at an advanced level
7. Design and implement Views using SQL
8. Translate the Logical Data Model to a basic Physical Schema
9. Be competent in the use of relevant industry representative software

Academic Integrity

Academic integrity is integral to your learning, the credibility of your degree or certification, and the integrity of the university as a whole. [Senate Policy 60: Academic Integrity](#) defines academic misconduct, provides a non-exhaustive list of examples of behaviours that may be considered as academic misconduct, and explains how academic misconduct concerns are evaluated and decided. The entirety of the policy applies in this course. As well, please note that submitting work created in whole or in part by artificial intelligence tools unless expressly permitted by the faculty/contract lecturer, is considered a violation of Policy 60.

Generative AI Course Policy

Use of Generative AI (e.g. ChatGPT, Grammarly, Perplexity, DeepL Translator) to develop or assist with any ideas or material submitted for coursework is expressly prohibited in this course. Use of Generative AI in this manner will be considered a breach of Policy 60.

Copyright

The course materials provided to you are copyrighted, and may not be shared without my express written permission. Do not share these materials (e.g. course outline,

lecture slides, assignment instructions) with others and do not post them on the internet during the course, or at any time after. If you do so, Policy 60 will apply.

Academic Integrity Resources

To learn more about Policy 60 and how to avoid academic misconduct, please review and take advantage of these resources:

- Policy 60: Academic Integrity: www.torontomu.ca/senate/policies/academicintegrity-policy-60/
- Academic Integrity Office website: www.torontomu.ca/academicintegrity
- “Academic Integrity in Space” game: <https://games.de.torontomu.ca/aio/#/>
- “Academic Integrity in Cyberspace!” game: <https://www.torontomu.ca/aic/#/>
- Student Life and Learning Support: www.torontomu.ca/student-life-andlearning/learning-support

If you are a student registered with Academic Accommodation Support (AAS):

Please inform your faculty/contract lecturer if you have test accommodation needs that include the use of assistive technology (including text-to-speech, dictation, or literacy software). Some software may require additional configurations by the faculty/contract lecturer, so it is important you inform them in advance and leverage the sample quiz to ensure the tools are compatible with the Brightspace Quiz in LockDown Browser.

However, not all Assistive Technology tools approved by AAS work well with Respondus' software; if your experience of the sample quiz does not function as expected, please notify your faculty/contract lecturer and/or Accommodation Facilitator.

Digital Learning Tools used in this course

None.

Topics and Course Schedule

Week	Topic	Readings
1	Role of Database Management and Relational Model Overview • Explain the advantages of Relational Databases • Explain Relational DB development and role of DBMS • Explain Relational Concept • Explain Primary and Foreign Keys and Referential Integrity	Chap 1 and 2
2	Simple Query formation in SQL • Analyze information request requirements • Explain components of SELECT statement • Design and implement a single table SQL query • Implement Conditional and Ordering requirements • Analyze output for completeness and accuracy	Chap 7
3	Simple Aggregates • Implement String searches • Implement Date functions • Implement Simple Aggregate functions	Chap 7
4	Complex Aggregates, Joins and DML Commands • Design and Implement queries using GROUP BY • Design and Implement queries using INNER JOINS • Apply Data Manipulation commands	Chap 7
5	• Midterm Exam	
6	The Relationship Model • Analyze Information Needs and Business Rules • Identify Constraints • Design and Implement an ERD	Chap 3

7	Entity Relationship Diagrams • Implement the Transform of Many to Many Relationships • Define and Implement Conceptual Relational Model	Chap 4
8	Complex Relationship Diagrams and Physical Design of Relational Model • Implement Recursive and Network Hierarchical structures • Implement Multiple and Bi-Directional Relationships Design Entities to support Referential Integrity	Chap 5
9	Sub Queries • Design and Implement Sub Queries to access Aggregate Results • Design and Implement Sub Queries to for Recursive Relations • Combine Sub Query results in single command	Chap 7
10	Views • Explain the role and structure of Views • Design and Implement Views • Design and Implement queries that utilize Views	Chap 8 Sect 5
11	Normalization • Understand the role of Normalization in Data Base Design • Define the rules of Normalization • Create a set of Normalized Relations for a data structure • Convert a set of Relations to an ERD	Chap 6
12	Review • Adequately prepare for Final Exam	

Evaluation

The grade for this course is composed of the mark received for each of the following components:

Evaluation Component	Percentage of Final Grade	Due Date (Week)	Anticipated Return Date
Weekly Labs	10%	2-11	3-12
• Assignment 1	10%	7	9
Assignment 2	20%	11	Exam Week
Midterm Exam	20%	5	7
Final Exam	40%	TBA	TBD
Final Grade		100%	
Note: Students must achieve a course grade of at least 50% to pass this course. At least 20% of the grade based on individual work will be returned to students prior to the last date to drop a course in good academic standing. For Fall 2026 this must be before Friday, November 20, 2026 and for Winter 2027 before Friday, April 2, 2027.			

University Policies

You are reminded that you are required to adhere to all relevant university policies found in their online course shell in D2L and/or on [the Senate website](#).

Important Resources Available at Toronto Metropolitan University

- **Addressing Academic Concerns:** Students are expected to address any questions or concerns through open and timely communication with the course faculty/contract lecturer, as soon as they arise. If a concern cannot be resolved

through this initial communication or if additional support is required, students are encouraged to reach out to their program advisor or the chair/director of the teaching department for further guidance. These individuals can help provide clarity, facilitate next steps, and ensure that matters are reviewed in a fair and appropriate manner.

- [The University Libraries](#) provide research [workshops](#) and individual consultation appointments. There is a drop-in Research Help desk on the second floor of the library, and students can use the [Library's virtual research help service](#) to speak with a librarian, or [book an appointment](#) to meet in person or online.
- [Student Life and Learning Support](#) offers group-based and individual help with writing, math, study skills, and transition support, as well as [resources and checklists to support students as online learners](#).
- You can submit an [Academic Consideration Request](#) when an extenuating circumstance has occurred that has significantly impacted your ability to fulfill an academic requirement. You may always visit the [Senate website](#) and select the blue radio button on the top right hand side entitled: Academic Consideration Request (ACR) to submit this request.

For Extenuating Circumstances, [Policy 167: Academic Consideration](#) allows for a once per semester ACR request without supporting documentation if the absence is less than 3 days in duration and is not for a final exam/final assessment. Absences more than 3 days in duration and those that involve a final exam/final assessment, always require documentation. Students must notify their faculty/contract lecturer once a request for academic consideration is submitted. See Senate [Policy 167: Academic Consideration](#).

Longer absences are not addressed through Policy 167 and should be discussed with your Chair/Director/Program to be advised on next steps.

- [FAQs Academic Considerations and Appeals](#)
- Information on Copyright:
 - [Copyright FAQs for Faculty/Contract Lecturers](#)
 - [Copyright FAQs for Students](#)
- Information on Academic Integrity:
 - [Academic Integrity for Faculty/Contract Lecturers](#)

- [Academic Integrity for Students](#)

Accessibility

- At Toronto Metropolitan University, we are committed to ensuring that all courses are accessible to everyone and to removing barriers that may prevent some individuals from enrolling in courses.
- All technologies and tools used in this course are accessible.
- Students who discover an accessibility barrier with any of the course materials or technologies should contact their faculty/contract lecturer.
- As outlined in [Policy 159: Academic Accommodation of Students with Disabilities](#), students are required to proactively consult with AAS, the faculty/contract lecturer, Department or Faculty, as soon as feasible, including prior to enrolling in a course or program, on any concerns they may have about their ability to meet the essential academic requirements of a course/program.

Academic Accommodation Support

[Academic Accommodation Support](#) (AAS) is the university's accessibility services office, supporting students with disabilities. AAS works with students, faculty, and staff to create inclusive learning environments, reduce barriers, and promote accessibility across the university.

If you have (or suspect you may have) a disability, AAS can provide consultation, guide you through registration, develop accommodation plans where appropriate, and connect you with supports and services. For information about eligibility, documentation requirements, registration, deadlines, and available services, visit [AAS](#).

Academic Accommodations (for students with disabilities) and Academic Consideration (for short-term extenuating circumstances) are governed by **different university policies**. [Learn more about each process](#) and how to access support. Students registered with AAS may request academic consideration (related or unrelated to their disability) if they experience extenuating circumstances that impact their ability to meet their shorter term academic obligations. This includes short term physical or mental health issues that are sudden/acute (e.g, the flu), unexpected illness or injury, hospitalization or treatment, and significant aggravation of a pre-existing condition. Please see [Policy 167: Academic Consideration](#) for more information and details.

Please note that there is no accommodation for missing/rescheduling or reweighting of tests - this is considered an alternate arrangement. Any student who misses a

test/exam will be directed to submit an ACR to explore if possible alternate arrangements under [Policy 167: Academic Consideration](#) can apply.

Wellbeing Support

At Toronto Metropolitan University, we recognize that things can come up throughout the term that may interfere with a student's ability to succeed in their coursework. These circumstances are outside of one's control and can have a serious impact on physical and mental well-being. Seeking help can be a challenge, especially in those times of crisis.

If you are experiencing a mental health crisis, please call 911 and go to the nearest hospital emergency room. You can also access these outside resources at anytime:

- **Distress Line:** 24/7 line for if you are in crisis, feeling suicidal or in need of emotional support (phone: 416-408-4357)
- [Good2Talk](#): 24/7-hour line for postsecondary students (phone: 1-866-925-5454)
- [GuardMe Student Support Program \(GMSSP\)](#): 24/7 access to confidential support through counsellors via the [Student Support app](#) or 1-844-451-9700

If non-crisis support is needed, you can access these campus resources:

- [Centre for Student Development and Counselling](#): 416-979-5195 or email csdc@torontomu.ca
- [Consent Comes First – Office of Sexual Violence Support and Education](#): 416-919-5000 ext 3596 or email osvse@torontomu.ca
- [Medical Centre](#): call (416) 979-5070 to book an appointment

We encourage all Toronto Metropolitan University community members to access available resources to ensure support is reachable. You can find more resources available through the [Toronto Metropolitan University's Wellbeing Central](#) website.