

(C)ITM 500 – Data and Information Management

COURSE OUTLINE FOR 2025-2026

Prerequisite(s): ITM 200 or in 2-year BTM Public Ontario College Diploma Graduate 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

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 in-person 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

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/academic-integrity-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-and-learning/learning-support

Topics and Course Schedule

Week	Topic	Readings
1	Role of Database Management and Relational Model Overview <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Implement String searches • Implement Date functions • Implement Simple Aggregate functions 	Chap 7
4	Complex Aggregates, Joins and DML Commands <ul style="list-style-type: none"> • Design and Implement queries using GROUP BY • Design and Implement queries using INNER JOINS • Apply Data Manipulation commands 	Chap 7
5	<ul style="list-style-type: none"> • Midterm Exam 	
6	The Relationship Model <ul style="list-style-type: none"> • Analyze Information Needs and Business Rules • Identify Constraints • Design and Implement an ERD 	Chap 3
7	Entity Relationship Diagrams <ul style="list-style-type: none"> • Implement the Transform of Many to Many Relationships • Define and Implement Conceptual Relational Model 	Chap 4

8	<p>Complex Relationship Diagrams and Physical Design of Relational Model</p> <ul style="list-style-type: none"> • Implement Recursive and Network Hierarchical structures • Implement Multiple and Bi-Directional Relationships <p>Design Entities to support Referential Integrity</p>	Chap 5
9	<p>Sub Queries</p> <ul style="list-style-type: none"> • 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	<p>Views</p> <ul style="list-style-type: none"> • Explain the role and structure of Views • Design and Implement Views • Design and Implement queries that utilize Views 	Chap 8 Sect 5
11	<p>Normalization</p> <ul style="list-style-type: none"> • 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	<p>Review</p> <ul style="list-style-type: none"> • 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	Due Date	Percentage of Final Grade	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 2025, this is Friday November 14, 2025. For Winter 2026, this is Friday March 27, 2026.			

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](#). Please refer to the [Course Outline Appendix](#) for more detail.

Important Resources Available at Toronto Metropolitan University

- [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.
- If taking a remote course, familiarize yourself with the tools you will need to use for remote learning. The [Remote Learning Guide](#) for students includes guides to completing quizzes or exams in D2L Brightspace, with or without [Respondus LockDown Browser and Monitor](#), [using D2L Brightspace](#), joining online meetings or lectures, and collaborating with the Google Suite.
- [FAQs Academic Considerations and Appeals](#)
- Information on Copyright for [Faculty](#) and [students](#).
- Information on Academic Integrity for [Faculty](#) and [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 disability services office. AAS works directly with incoming and returning students looking for help with their academic accommodations. AAS works with any student who requires academic accommodation regardless of program or course load.

- Learn more about [Academic Accommodation Support](#).
- Learn [how to register with AAS](#).
- Learn about [Policy 159: Academic Accommodation of Students with Disabilities](#)

Academic Accommodations (for students with disabilities) and Academic Consideration (for students faced with extenuating circumstances that can include short-term health issues) are governed by two different university policies. Learn more about [Academic Accommodations versus Academic Consideration](#) and how to access each.

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)
- [Keep.meSAFE](#): 24/7 access to confidential support through counsellors via [My SSP app](#) or 1-844-451-9700

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

- [Centre for Student Development and Counselling](mailto:csdc@torontomu.ca): 416-979-5195 or email csdc@torontomu.ca
- [Consent Comes First – Office of Sexual Violence Support and Education](mailto:osvse@torontomu.ca): 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.