(C)ITM 305 - Systems Analysis and Design

COURSE OUTLINE FOR 2025-2026

Prerequisite(s): ITM 100 or ITM102 or in the 2 Year Business Technology Management Ontario College Diploma Graduate Program

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

The course covers the key concepts, techniques, and methodologies relevant to the process of developing information systems (IS). The course focuses on the development of requirements, analysis, and design models of the system to be. The specifications of these models are done using the Unified Modeling Language (UML). In addition, the course provides a contextual coverage of the system development life cycle and select concepts of IS construction, deployment and project management respectively.

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: Systems Analysis and Design in a Changing World (7th Edition)
Author(s): John W. Satzinger, Robert B. Jackson, Stephen D. Burd
Publisher: Cengage Learning
ISBN: 978-1305117204
Price: $232.95, E-book: $81.50
Ebook: https://www.cengage.ca/shop/isbn/9781337001168

Course Learning Outcomes

To acquire knowledge of and competency in the major techniques used in the analysis and design of the business information systems. Specifically, to acquire a competency in developing UML diagrams to facilitate the documentation of the analysis and design requirements to meet development requirements.
Upon completion of the course, the student is expected to be able to:

1. Explain the fundamentals of IS development life cycle and methodologies.
2. Explain the key elements of requirements' elicitation, gathering and specification.
3. Create models of system functional behavior.
4. Create structural analysis models of information systems.
5. Create behavioral analysis models of information systems.
6. Explain the fundamentals of system design
7. Explain the Object Oriented Design concepts
8. Create Use Case Realization diagrams

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/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	Fundamentals of Information Systems Development Life Cycle and Development Approaches and Methodologies ● Describe the purpose of Systems Analysis and Design ● Explain the Systems Development Life Cycle ● Explain the Methodologies for the six core processes	Chapter 1/10
2	Requirement Gathering & Specification ● Describe the activities of Systems Analysis ● Explain the difference between function and nonfunctional requirements ● Identify and understand different kinds of stakeholders ● Describe and understand information gathering techniques ● Describe the role of models and UML in Systems Analysis	Chapter 2
3	Use Case Modeling with Use Case Diagrams ● Describe role of Use Stories and Use Case ● Apply Event Decomposition to identify Use Cases ● Understand Use Case Notation ● Implement Use Case Diagrams by actor and subsystem	Chapter 3
4	Use Case Specification & Documentation ● Implement fully developed Use Case descriptions ● Explain how use case descriptions and UML diagrams work together to define functional requirements Activity Diagrams ● Describe the role of Activity Diagrams ● Understand Activity Diagram Notation Implement Activity Diagrams	Chapter 5
5	Domain Class Diagrams ● Explain the concept of “things” in the problem domain ● Identify and analyze domain classes ● Create a Domain Model Class Diagram	Chapter 4
6	Midterm Exam (hour 1) Foundations of System Design (hour 2) • Describe the activities of Systems Design • Identify the documents and models used in Systems Design • Explain each major design activity	Chapter 6

7	System Sequence Diagrams ● Describe the role of System Sequence Diagrams ● Understand System Sequence Notation ● Implement System Sequence Diagrams	Chapter 5
8	Object Oriented Design Fundamentals ● Explain the purpose and objectives of object-oriented design ● Develop Design Class Diagrams ● Explain the important fundamentals of object-oriented design	Chapter 12
9	Overview of Use Case Realizations – Single Layer ● Develop Sequence Diagrams for Use Case Realization ● Understand Relationship to SSD and Class Diagrams	Chapter 13
10	Overview of Use Case Realizations – Multi Layer ● Explain the different types of objects and layers in a design ● Understand the User Interface layer ● Understand the Data Access Layer ● Understand Packaging Diagrams	Chapter 13 (Cont'd)
11	Defining the System Architecture ● Explain architectural concepts that influence System Design ● Describe a systems environment	Chapter 7
12	Agile Approaches and Course Review ● Explain the concepts behind Agile ● Review the different Agile techniques employed in industry ● Course Review	

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
Lab/Homework	1-10	10%	2-11
Midterm Exam	6	25%	7
Project Phase I	7	15%	9
Project Phase II	11	10%	Exam Week
Final Exam	TBA	40%	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: 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.