Commerce 3KA3-CO2
Systems Analysis and Design
Fall 2026 Course Outline

Information Systems Area
DeGroote School of Business
McMaster University

INSTRUCTOR AND CONTACT INFORMATION

Dr. Ali Reza Montazemi	Chinonso Anyaehie Zahra Fouldgar
Instructor	TAs
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Office: DSB 421	
Office Hours: by appointment	Office Hours: by appointment

Course website: All communication will be through course Avenue

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COURSE ELEMENTS

Credit Value:	3	Leadership:	Yes	IT skills:	Yes	Global view:	Yes
A2L:	Yes	Ethics:	No	Numeracy:	Yes	Written skills:	Yes
Participation:	Yes	Innovation:	Yes	Group work:	Yes	Oral skills:	Yes
Evidence-based:	Yes	Experiential:	Yes	Final Exam:	Yes	Guest speaker(s):	Yes

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COURSE INFORMATION

Class Meeting Time		
Section	**Day/time** *(Eastern Time)*	
C02	Tuesdays (11:30am-2:20pm)	
All communication will be through course Avenue		

Students corresponding via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information, as well as confirms the identity of the student.

IMPORTANT LINKS

- Mosaic
- Avenue to Learn
- Student Accessibility Services - Accommodations
- McMaster University Library

COURSE LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

- Explain the need for systems analysis and the role of systems analysts.
- Compare traditional, agile, and other approaches to information systems development.
- Elicit and document business and system requirements using appropriate information-gathering methods.
- Model and analyze system requirements using process, data-flow, and object-oriented techniques.
- Design effective system interfaces, outputs, and inputs.
- Design databases that support stated information and business requirements.
- Apply human-computer interaction principles to interface and data-entry design.
- Explain key quality-assurance, implementation, and system-maintenance considerations.

COURSE LEARNING GOALS

This course aims to develop a holistic understanding of how information systems are being built. Starting from identifying the need for an information system to the maintenance of the system. In this course, different approaches (e.g., agile approach) to analyze systems requirements, and how to design a system and its databases will be discussed. Students will also learn about low-code platforms that can be used to develop such information systems. Students will learn through synchronous lectures, online and offline discussions, hands-on

assignments, and a term project. Through the course students will learn how to translate business requirements into information systems that support a company's short- and long-term objectives.

Required Materials and Texts

These items are an integral part of the lesson plan for the course, and not having these materials could have a negative impact on a student's learning outcomes for the course.

Required: Kendall & Kendall, Systems Analysis and Design, 11th Edition, 2024

Textbook Listing: https://textbooks.mcmaster.ca

Class Format

This is an in-person 3-hour course. The three hours will consist of mini-lecture, lengthier discussion, and more in-depth discussion of the topics related to the lecture. There will be a short break part way through at a convenient time based on what we are working on. Please use this time to take care of personal needs of various kinds.

Course Evaluation

Learning in this course results primarily from readings, in-class activities, individual assignments, a term project, and a final examination.

Assignments

The assignments are designed for students to gain hands-on experience of the systems analysis and design techniques. Students should work on these assignments individually.

Final Exam

The final examination covers all material addressed during the term. It is closed-book, completed individually, and held in person.

Term Project

Students will complete a requirements analysis and systems design project for an e-business initiative in groups of five. The project requires each group to elicit and analyze requirements and propose an appropriate system design.

Please note: During the presentation, each group member will be asked questions to evaluate their understanding of the content presented in the report. All members are expected to be familiar with the entire report and capable of explaining any part of it. Accordingly, the report grade will reflect both the quality of the content and each member's comprehension. Individual grades may differ based on each member's understanding and presentation performance.
If any issues arise with group dynamics (e.g., uneven contributions, absentee members), **students must inform the instructor promptly**. The instructor would intervene by facilitating resolution, redistributing marks, or reorganizing teams if necessary.

Participation

In-class participation is worth 22% of the final grade and is based on both collaborative and individual engagement. Students will work in assigned groups to complete weekly in-class activities that apply core course concepts to practical scenarios. All group members will receive the same grade for each activity. During the final three weeks of the term, groups will present their systems analysis and design projects. On presentation days, all non-presenting groups are expected to serve as peer reviewers, providing written feedback on each presentation's strengths and areas for improvement. Participation marks will reflect attendance, contributions to group activities, peer-review quality, and active involvement throughout the course. If any group experiences issues with unequal participation or lack of collaboration, students are expected to inform the instructor immediately so that appropriate steps can be taken. Detailed participation criteria and activity weights will be provided on Avenue to Learn.

Students are expected to give their full attention to all presenters. A student who uses a cellphone, engages in side conversations, or otherwise engages in distracting communication during a presentation will receive a grade of zero for class participation in that class, unless the device use is required for an approved accommodation or has been authorized by the instructor.

Components and Weights

Assignments (total)		15%
Assignment 1 – Mendix (Become a Rapid Developer)	10%	
Assignment 2 – Celonis (Introduction to Process Mining)	5%	
Final Exam		30%
Project (total)		33%
Proposal		8%
Presentation		10%
Report		15%
In Class - Participation		22%
Total		**100%**

LATE ASSIGNMENTS

All assignments must be handed in electronically through the course website by the deadline date and time specified for each component. **The penalty for overdue assignments is 20% of the total assignment mark per day.**

COMMUNICATION AND FEEDBACK

Students who wish to correspond with instructors or TAs directly via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information as well as confirms the identity of the student. Emails regarding course issues should NOT be sent to the Area Administrative Assistants. All students must receive feedback regarding their progress prior to the final date by which a student may cancel the course without failure by default.

- *For Level 1 and Level 2 courses, this feedback must equal a minimum of 20% of the final grade.*
- *For Level 3 courses and above, this feedback must equal a minimum of 10% of the final grade.*

Instructors may solicit feedback via an informal course review with students by Week #4 to allow time for modifications in curriculum delivery.

Students who have concerns about the course content, evaluation methods, or delivery should first reach out to the course instructor. If your concern remains unresolved after speaking with the instructor, you may then reach out to the relevant Area Chair for further consideration.

REQUESTING RELIEF FOR MISSED ACADEMIC WORK

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work" and the link below*;

http://ug.degroote.mcmaster.ca/forms-and-resources/missed-course-work-policy/

* Non-Commerce students must follow the Missed Course Work protocols outlined by their home faculty and Program Office.

COURSE MODIFICATION

From time to time there may be a need to remove/add topics or to change the schedule or the delivery format. If these are necessary, you will be given as much advance notice as possible.

ARTIFICIAL INTELLIGENCE

Students are not permitted to use generative AI in this course. In alignment with McMaster academic integrity policy, it "shall be an offence knowingly to … submit academic work for assessment that was purchased or acquired from another source". This includes work created by generative AI tools. Also stated in the policy is the following: "Contract Cheating is the act of "outsourcing of student work to third parties" (Lancaster & Clarke, 2016, p. 639) with or without payment." Using Generative AI tools is a form of contract cheating. Charges of academic dishonesty will be brought forward to the Office of Academic Integrity.

ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy.

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.

- copying or using unauthorized aids in tests and examinations.

AUTHENTICITY/PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. Avenue to Learn, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

COURSES WITH AN ON-LINE ELEMENT

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn, LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described

in the Code of Student Rights & Responsibilities (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online.**

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Academic Accommodation of Students with Disabilities

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's Academic Accommodation of Students with Disabilities policy.

Academic Accommodation For Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students should submit their request to their Faculty Office ***normally within 10 working days*** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Copyright and Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.

ACKNOWLEDGEMENT OF COURSE POLICIES

Your enrolment in Commerce 3KA3 will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on A2L. **It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.**

Lack of awareness of the course policies **cannot be invoked** at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand

COURSE SCHEDULE

Commerce 3KA3-CO2 Systems Analysis and Design Fall 2026 Course Schedule

Week	Date	Lecture Topic	Assignment/ Term Project Presentation
1	Sep. 08	Overview of Course Outline and Expectations Introduction to Systems Analysis and Design (Ch 1)	1. Finalize Team 2. Register www.signup.celonis.com.
2	Sep. 15	Understanding and modeling org (Ch 2) Project management (Ch 3)	**Assignment #1** **Release: Sep. 15 – 9:00 AM** **Due: Oct. 20 – 11:59 PM**
3	Sep. 22	Information gathering (Chapters 4 and 5)	**Celonis Guest speaker** **Assignment #2** **Release: Sept. 22– 9:00 AM** **Due: Sept. 29– 11:59 PM**
4	Sep. 29	Group work for completion of project proposal. (No physical class)	**Assignment #2** **Due: Sept. 29– 11:59 PM** **Project Proposal** **Release: Sep. 29 – 9:00 AM** **Due: Oct. 6 – 11:59 PM**
5	Oct. 6	Agile modeling (Ch 6) Zoom class: https://mcmaster.zoom.us/j/96740197808	**Project Proposal** **Due: Oct. 6 – 11:59 PM**
6	**Oct. 12-18 NO CLASSES – MIDTERM RECESS**		
7	Oct. 20	Data flow diagram (Ch 7)	**Assignment #1** **Due: Oct. 20 – 11:59 PM**

8	Oct. 27	Data dictionaries (Ch 8)	
9	Nov. 03	Process specifications (Ch 9)	
10	Nov. 10	Object-oriented systems and UML (Chapter 10) Designing effective outputs and inputs (Chapters 11 and 12)	
11	Nov. 17	Designing databases (Ch 13) Human-Computer interaction (Ch 14)	**Project Report** **Due: Nov. 17 – 9:00 AM**
12	Nov. 24	Project Presentation	
13	Dec. 01	Project Presentation	
14	Dec. 08	Project Presentation (Last Day of Classes)	