



Systems Analysis and Design

BUSI 3402/A
WINTER 2025

Instructor: Ali Nazari
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Office: In Zoom
Office Hours: Tuesdays, 1 to 3 pm

TA: TBD
Office Hours: TBD
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Modality: In-Person Flipped Class: Two hours of synchronous, in-person lectures followed by one hour of teamwork or in-class exercises.

Class Times: Friday 2:35 pm - 5:25 pm (Note: first class on Friday, January 10, 2025; last class is April 4, 2025)

In order to stay updated with important notifications and announcements from Carleton University, please download the Carleton University App. This will ensure you receive timely information regarding your courses and other university-related updates throughout the term.

Pre-requisites: One of BUSI 2400 (1401), or COMP 2404, or SYSC 2004 (with a grade of C or higher).

Precludes: Precludes additional credit for SYSC 3100, BUSI 3403, (no longer offered) and BUSI 3404 (no longer offered).

Course Calendar Description: This course covers the fundamentals of the software development life cycle (SDLC) and agile methodologies, focusing on feasibility, planning, analysis, design, and implementation of information systems. Key concepts, methodologies, techniques, and tools essential for the successful system development are covered. Real-world cases will be presented to demonstrate and apply these methods.

Course Description: In-depth overview of methods for analyzing computer-based information systems, focusing on the phases of the SDLC. Structured and object-oriented methods, and agile methodologies, will be explored, with a focus on practical applications through team projects using

CASE tools. Students will develop the skills to elicit and realize user requirements, translating them into functional information systems through discussions, assignments, and team projects.

Drop Course Policy

The deadline for academic withdrawal follows the dates prescribed by Carleton University: <https://calendar.carleton.ca/academicyear/>

The deadline to drop this course with full fee adjustment is January 31st, 2025. The last day to withdraw from full fall courses is March 15th, 2025.

Learning Outcomes:

1. Gain insight into various types of IT-based business needs.
2. Conduct feasibility studies, establish priorities, and initiate information system projects.
3. Define information system project challenges or opportunities.
4. Employ analytical methods, including data modeling techniques, to assess problems or opportunities.
5. Utilize case tools for both process and data modeling.
6. Communicate security and user experience principles throughout the system development process.
7. Engage in information system design encompassing design, user interface, data modeling, and information requirements.
8. Evaluate and communicate the feasibility of alternative solutions while analyzing ethical, cultural, and legal issues.

Reading(s)/Textbook(s)/Required Materials

Required: Course lectures uploaded on Brightspace (Lecture two hours and teamwork & exercise one hour).

& Required Textbook

Dennis, A. Wixom, B. H. Roth, R. M., Systems analysis and Design, 8th Edition, 2021

Additional resources:

Joseph S Valacich & Joey F. George, Modern Systems Analysis and Design, 8/E

Lab and software

Objective and tool: Use web-based diagramming applications that support various diagram types or use system development tools, i.e., IBM's Rational® Requirements Management, Rational Software Modeler, IBM DB2, and MS SQL Server or Access, MS Visio and MS Project, to support the information systems analysis and design process. For MS Office Visio and Project management software, download from the university software site.

Students are **not required** to purchase a physical copy of the textbook or other tools and materials needed in this course. A digital version is sufficient for all course requirements and may be accessed via platforms such as university e-library, publisher's site, etc. In case

students wish to purchase the physical copy or other materials, they are welcome to do so, but it is not mandatory for success in the course.

Grading Scheme:

Class participation + 3 in-class exercises	15%
Individual assignments:	
Assignment 1: Foundations for systems development & System Planning	10%
Assignment 2: System Analysis	10%
Assignment 3: System Design	10%
Team project:	
Team Assignment - Sign off	5%
Team Assignment – Presentation (&Peer review)	10%
Team Assignment – Report (&Peer review)	10%
Final exam (35%)- TBD	30%
Total	100%

Preparation and Participation:

Effectively mastering information systems analysis and design involves bridging theoretical knowledge with practical application. Your active participation in class is crucial for success in this course. Your engagement will be assessed based on both the quantity and quality of your participation in in-class exercises. Come prepared to actively contribute, respond to class discussions, and bring forth any questions or challenges you encounter in your practical application for group discussion. The course includes three in-class exercises conducted during the third hour of the weeks specified in the course schedule. These exercises require you to practice the content covered in class, aligning with each phase of system development demonstrated during lectures. Each of the three exercises is equally weighted, with 3 and 6 points allocated for class participation.

Individual Assignment:

There will be three individual assignments, each of which must be submitted by the specified due date. Please ensure that each assignment file is correctly named using the following format: Assignment#_LastName_CUID (e.g., Assignment1_Nazari_100123456). All assignments must be submitted through Brightspace. Additional instructions will be provided on the course's Brightspace site.

Term Project and Presentation

Students will form teams, leveraging best practices for diverse and successful team analysis and system design. Each team is required to submit three assignments on Brightspace, covering the following components: Final Project Topic - Instructor Approval (5%), Presentation (10%), and Report (10%). The approval for the final topic will be obtained through Instructor Approval – Team Assignment - Sign-off. Additionally, the presentation is in-person and will include a 10-15-minute recorded pitch via Zoom, involving contributions from all team members. Team report will submit on Brightspace in due date dedicated in the course schedule. Collaboratively, team members will provide peer reviews to assess each other's contributions, with individual report & presentation grades determined by the overall team assessment based on these peer reviews. Additional instructions will be provided on the course's Brightspace site.

Late Assignments:

Assignments, in-class exercises, and group assignments must be submitted by the specified due date, which serves as the final deadline. However, submissions will be accepted up to 4 days beyond the due date and are subject to **a late penalty of 20% per day**. After this period, no submissions will be accepted. Failure to submit **an assignment of individual, in-class, or group assignment will result in failing the course**. Please ensure timely submission to avoid penalties and to meet course requirements.

Final Exam:

Please note that examinations in this course will use a remote proctoring and CoMaS service provided by Scheduling and Examination Services. You can find more information at <https://carleton.ca/ses/e-proctoring/>.

The minimum computing requirements for this service are as follows:

- Hardware: Desktop, or Laptop
- OS: Windows 10, Mac OS 10.14, Linux Ubuntu 18.04
- Internet Browser: Google Chrome, Mozilla Firefox, Apple Safari, or Microsoft Edge
- Internet Connection (High-Speed Internet Connection Recommended)
- Webcam (HD resolution recommended)

Note: Chromebooks, tablets (Android, iOS, Windows), and smartphones are not supported by CoMaS at this time. You must complete your exams using Windows-based or MacOS computers.

Deferred Examinations:

If you wish to defer a **Formal Final Exam**, you – the student – must reach out to the registrar's office with the proper documentation prior to the deadline (please refer to <https://carleton.ca/registrar/deferral/> for dates). Once the request has been put through, your instructor will be notified for their approval. Your final exam will be formally scheduled. If you miss the deadline for applying for a deferral, please reach out to your instructor personally to discuss.

Expectations:

Professional conduct is built upon the idea of mutual respect. Such conduct entails (but is not necessarily limited to):

- *Attendance*: Each class benefits from the attendance and participation of all students. Your understanding of the class content and ability to contribute will be affected by absences. Regular class attendance is important and required. It is expected of you to attend class and contribute to a quality discussion. Class and team discussion of the materials (e.g., readings, assignments, and cases) are an important part of the learning process. If circumstances prevent attendance at a class meeting, please remember that you are responsible for all materials discussed, handouts distributed, assignments covered, and announcements made.
- *Punctuality*: Arriving on time is important to avoid disrupting the class.
- *Assignments*. All assignments must include student name, number, group number, and signed declaration of academic integrity on the submitted report to receive a grade.
- *Team projects*. Teams for group project are created in class during week one and two of the course. Students arriving after should notify the course instructor and find a team. Teams are student selected and will follow their own norms of conduct.

- *Attending team meetings.* Missing more than 2 team meetings without a certified reason may result in team members being requested to leave a team. Assessment of the team assignment will then be reviewed and agreed upon with the instructor.
- *Assignment feedback:* Assignment feedback will be available via Brightspace. Rewrites of assignments or exams will not be provided.
- *Being prepared for class.* You should be ready to discuss any assigned readings and course content. Also, be prepared to answer any assigned questions for each day's class, including being ready to open a case assigned for that day.
- *Feedback and Suggestions:* Please leave any concerns, suggestions, or issues you may have related to the course using the “feedback & suggestions” link available on the course Brightspace page. Ensure all submissions include the message content in the comment section.
- *Email Communication:* Due to the size of the class, I may take up to 48 hours to respond to emails. Please only send emails for urgent matters. When emailing the instructor, use the subject line "BUSI 3402-" followed by your name, CUID, and group number. All non-urgent inquiries should be addressed during class or office hours.
- *Grades and feedback* may be delayed due to the availability of TA's, sickness, Sprott responsibilities or family matters. You have options to connect with the instructor prior to assignments via Brightspace, office hours (third hour) and in class questions.
- *Grades.* The grades for the peer review and class participation will not be released as they are designed to cover the complete course content.

Course Schedule

Week / Date	Topic 2:35 pm - 4:25 pm	Teamwork/in-class exercise/ Assignments 4:35 pm - 5:25 pm
W1- Jan. 10	Introduction and course overview, Review course outline; Assignments (1, 2 and 3) and Group Project assignment. Planning- 1: Project Initiation	Create teams to work on project and brainstorming.
W2- Jan. 17	Planning- 2: Project Management	Teamwork, team forming, team project
W3- Jan. 24	Analysis- 3: Requirements Determination	Finalize your project teams and submit the names to the instructor through the 'Feedback & Suggestions' link. <u>In-Class Exercise #1</u>
W4- Jan. 31	Analysis- 4: Use Case Analysis & Process Modeling	Assignment 1: Foundations for systems development & System Planning - Due Date: <u>Jan. 31st by 11:59 PM</u> Teamwork

W5- Feb. 7	Analysis- 5: Data Modeling & 6: Moving into Design	Team Assignment - Sign off - Due Date: <u>Feb. 7th by 11:59 PM</u> <u>In-Class Exercise #2</u>
W6. Feb. 14	Design- 7 Architecture Design & 8: User Interface Design	Assignment 2: System Analysis - Due Date: <u>Feb. 14th by 11:59 PM</u> Teamwork
February 17-21, 2025	Winter reading break, no class	---
W7. Feb. 28	Design- 8: User Interface Design (cont.) & 9: Program Design	Teamwork
W8. March 7	Design- 10: Data Storage Design & 11: Moving into Implementation	<u>In-Class Exercise #3</u>
W9. March 14	Implementation- 12: Transition to the New System	Assignment 3: System Design- Due Date: <u>March 14^h by 11:59 PM</u> Teamwork
W10. March 21	Agile Development Methods	Teamwork
W11. March 28	Overview of the classes, the team report and presentation, and the final exam.	Team Assignment – Presentation- Due Date: <u>March 27th by 11:59 PM</u>
W12. April 4	Presentation & report & peer review	Team Assignment – Presentation- Due Date: <u>April 3th by 11:59 PM</u> Team Assignment – Report (&Peer review)- Due Date: <u>April 8th by 10:00 PM</u>

Contribution to Learning Goals of the Program (BCom, BIB):

Program Learning Goal	Competencies Not Covered	Competencies Introduced (only)	Competencies Taught But Not Assessed	Competencies Taught and Assessed
CHECK (X) ONE PER ROW				
BC1 Knowledge <i>Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.</i>				✓
BC2 Collaboration <i>Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and</i>				✓

<i>interest of all members.</i>				
BC3 Critical Thinking <i>Graduates will be discerning critical thinkers, able to discuss different viewpoints, challenge biases and assumptions, and draw conclusions based on analysis and evaluation.</i>			✓	
BC4 Communication <i>Graduates will be effective and persuasive in their communications.</i>				✓
BI5 Global Awareness (BIB ONLY) <i>Graduates will be globally-minded.</i>				✓

ADDITIONAL INFORMATION

Course Sharing Websites

Materials created for this course (including presentations and posted notes, labs, case studies, assignments, and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Required calculator in BUSI course examinations.

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

Group work

The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership, and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

Grading

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

Academic Regulations

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Requests for Academic Accommodation

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy Accommodation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation

at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline

Academic Integrity

Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated.

Process: If an alleged violation occurs, all relevant documentation will be forwarded to the Dean. If the allegation proves true, the penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. **For a first offence, at a minimum, the penalty assigned will normally be a zero on the submitted work and at least a minimum full grade reduction of the final course grade. For a second offence, at a minimum, the penalty assigned will normally lead to a suspension from studies.**

Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>.

Sprott Student Services

The Sprott Undergraduate Student Services Office offers program advising and overall student success support. Our team is available to discuss your academic goals and your program progression plans. We

can also work with you to develop strategies for success, including study skills for Business. If you experience any difficulty this term or if you would like to access support, please contact our team at bcom@sprott.carleton.ca or at bib@sprott.carleton.ca.

Centre for Student Academic Support

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: carleton.ca/csas.

Important Information:

- Students must always retain a copy of all work that is submitted.
 - All final grades are subject to the Dean's approval.
 - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <https://carleton.ca/its/get-started/new-students-2/>
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