ISOM3210: Information Systems Analysis and Design
Spring 2026

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Class Schedule: Wed, Fri 13:30 ~ 14:50

Lab Schedule: Wed 09:00 ~ 10:20 (LA1) Wed. 10:30 ~ 11:50 (LA2)

Course Website: https://canvas.ust.hk

Textbooks (for reference only)

1. "System Analysis and Design with UML: An Object-Oriented Approach", by Alan Dennis, Barbara Haley Wixom and David Tegarden; 6th ed., 2020; John Wiley & Sons; ISBN 978-1-119-56121-7.

2. AUCM[1]: "Advanced Use Case Modeling," 2nd printing, by Frank Armor and Granville Miller, Pearson, April 2001. ISBN 0201615924.

Introduction

In today's digital era where IT renovation and innovation are driven by larger societal and technological changes, organizations must become adept in bringing in new information systems and managing the challenges that go along with implementing the systems.

This course provides an overview of planning the development of information systems through clearly understanding and specifying what a system should do and how various components of a system should work together. In addition, students will learn the fundamentals of IS development and apply them to solve business problems through analyzing the requirements of information systems and designing such systems.

Key Components of the Course

The course includes the following three key components:

- Lectures (online and offline): Explain and discuss the key topics on system analysis and design and work on exercises and cases relevant to the topics

[1] Relevant topics will be scanned and posted on Canvas.

- Labs: Mainly guide students to work on the team project and other advanced and practical system analysis problems

- Team project: Provide students with hands-on experience in applying knowledge and skills learned in class to model an information system

Learning Outcomes (Adapted from Outcome Based Education: PILOs-BBA-IS)

Course student learning outcomes:

- Analyze the core issues and identify critical factors for IS development-related decision-making
- Solve business problems using analytical IS development methodologies
- Understand how IS interact with other business areas
- Demonstrate substantial knowledge and understanding of system analysis and modeling paradigms
- Apply IS development frameworks and tools to resolve business problems in the IS sector of an organization and other business sectors relying on IS
- Understand key IS development management issues and make sound IS development decisions as business managers

In addition, throughout the semester, students will have opportunities to develop ability to:

- Produce professional quality business documents in English
- Deliver a professional quality presentation in English
- Communicate ideas persuasively to inform and convince others
- Understand team dynamics and the various roles played within the team
- Contribute to the successful and timely completion of a group project in line with their roles in teams
- Collaborate positively by actively seeking and engaging in discussion of the views of others while showing sensitivity to opposing views
- Lead a team to success

Grading

- Online Learning and Exercises (10%)
- In-Class Assessment (10%)
- Team Project
  - System Proposal (15%)
  - Team Project Report (20%)
- Midterm exam (20%)
- Final exam (25%)

In-Class Assessment

Students are expected to come to class and lab prepared and participate in discussions and group tasks. We highly value your inputs, and so in-class assessment marks will be awarded to those who make an effort to actively engage in discussions and group tasks. Both quality and quantity of your contribution will determine the credit for in-class assessment.

Online Learning and Exercises

Students are required to study course materials posted on Canvas and complete the corresponding online exercises.

Team Project

Students have to complete a team project requiring them to perform analysis and design activities on a proposed system. The project team will comprise 5 to 6 students. Each team needs to submit a project proposal and a final report and make a presentation by the end of the semester. More details about the project will be provided later.

Examination

One mid-term exam will be administered during the semester followed by a final exam in the official final exam period. The exams are expected to measure the degree to which students individually have understood the key concepts covered in class. To help you prepare for the examinations, review sessions will be offered. Makeup examinations will be allowed only in cases of documented health or family emergencies or for official, university-sanctioned activities. The instructor reserves the right to use a percentage score of the other examinations to make up for missed examinations. Advanced notification of missing an examination is required. Any uncoordinated absence from an exam will result in a score of 0 for the exam.

Labs

Students are required to work on more advanced and practical system analysis problems during lab sessions. You are expected to apply concepts that are learnt from lectures into lab sessions for these problems. You should attend lab sessions on time, complete the exercise and engage actively in the discussion.

Academic Integrity

Academic integrity entails absolute honesty in one's intellectual effort. In general, students who are found cheating or plagiarizing other people's work, regardless of whether such behaviors take place online or offline, will immediately fail the course and be subject to further disciplinary actions. In addition, uploading, distributing or reselling this course's materials to any individuals and/or online platforms is considered copyright infringement and violation of Student Conduct Code for encouraging or facilitating academic dishonesty and misconduct.

For more information, please refer to the following Website: http://ugadmin.ust.hk/integrity/student-1.html

Class Schedule *(Tentative, last updated on Jan. 6, 2026)*

Week	Lecture (Wed, Fri)		Lab (Wed)
1	Feb 4	Course Introduction and Project Initiation	Feb 11: Introduction to the Course Logistics
	Feb 6	System Request and Feasibility Analysis **Online Self-study** on Requirements Analysis	
2	Feb 11	Requirement Analysis: Review and Group Case Study	***Feb 18: No lab***
	Feb 13	Project discussion 1: Idea brainstorming (Lab)	
3	Feb 18	***No class – Public Holiday***	Feb 25: Project discussion 2: Case study: 759 Online App
	Feb 20	**Online Self-study** on 1. Actor and Use Case Diagram 2. Base Use Case 3. Conditional Flow	
4	Feb 25	Q&A for Online Materials (Optional)	Mar 4: Project discussion 3: Mapping Requirements into Use Cases
	Feb 27	Use Case Modeling: Review, Group Case Study and Exercises **Online Self-study** on 1. Extending Use Case 2. Included Use Case	
5	Mar 4	Q&A for Online Materials (Optional)	Mar 11: Project discussion 3: Case studies on EUC and IUC
	Mar 6	Extending and Included Use Cases: Review and Group Exercise	
6	Mar 11	Midterm review	***Mar 18: No Lab***
	Mar 13	Midterm exam 4:30-6:30pm @ TBA **Online Self-study** on Class Diagram 1. Object-oriented Analysis Overview 2. Class, Attribute and Method 3. Relationship	
7	Mar 18	Q&A for Online Materials (Optional)	Mar 25: Identifying components of Class Diagram
	Mar 20	Class Diagram: Review Class Diagram Concepts **Online Self-study** on Developing Class Diagram from Use Cases 1. Identification of Classes, Attributes and Methods 2. Specification of Relationships	

8	Mar 25	Q&A for Online Materials (Optional)	Apr 1: Developing Class Diagram
	Mar 27	Developing Class Diagram from Use Cases: Group Exercise **Online Self-study** on Sequence Diagram	
9	Apr 1	Q&A for Online Materials (Optional)	***Apr 8: Midterm Break***
	Apr 3	***Midterm Break***	
9	Apr 8	***Midterm Break***	Apr 15: Developing Class Diagram (2)
	Apr 10	Sequence Diagram: Review and Group Exercise **Online Self-study** on Behavioral State Machine	
10	Apr 15	Q&A for Online Materials (Optional)	Apr 22: Developing Sequence Diagram
	Apr 17	Behavioral State Machine: Review and Group Exercise **Online Reading Material**: Dr. Chris Exercise	
11	Apr 22	Q&A for Dr. Chris Exercise (Optional)	Apr 29: Developing BSM Diagram and wrap-up
	Apr 24	Wrap up the Key Takeaway of Dr. Chris Exercise Final Exam Review	
12	Apr 29	***No class – Project work***	
	May 1	***No class - Public Holiday***	
13	May 6	Project Consultation	
	May 8	*** Project Final Report Due: May 8 23:59 *** *** Second Peer Evaluation Due: May 10 23:59 ***	