ISOM3210: Information Systems Analysis and Design
Spring 2024

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Class Schedule: Tue., Thu. 09:00 ~ 10:20

Lab Schedule: Fri. 09:00 ~ 10:20 (LA1) 10:30 ~ 11:20 (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; 5th ed., 2015; John Wiley & Sons; ISBN 9-781118-804674.

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

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[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 (7%)
- In-Class Assessment (8%)
- Team Project (35%)
- Midterm exam (20%)
- Final exam (30%)

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.

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. 17, 2024)*

Week	Lecture (Tuesday and Thursday)		Lab (Friday)
1	Feb 1	Course Introduction and Project Initiation	Feb 2: Introduction to the Course Logistics and Project
2	Feb 6	System Request and Feasibility Analysis	Feb 9: Project discussion 1: Idea brainstorming
	Feb 8	**Online Self-study** on Requirements Analysis	
3	Feb 13	***Public Holiday***	Feb 16: Project discussion 2:
	Feb 15	Requirement Analysis: Review and Group Case Study	Project Kickoff Meeting and Requirements Analysis
	Online Self-study on 1. Actor and Use Case Diagram 2. Base Use Case 3. Conditional Flow		
4	Feb 20	Q&A for Online Materials (Optional)	Feb 23: Project discussion 3:
	Feb 22	Use Case Modeling: Review, Group Case Study and Exercises	Mapping Requirements into Use Cases
	Online Self-study on 1. Extending Use Case 2. Included Use Case		
5	Feb 27	Q&A for Online Materials (Optional)	Mar 1: Project discussion 4:
	Feb 29	Extending and Included Use Cases: Review and Group Exercise	Case studies on EUC and IUC
6	Mar 5	Midterm review	***Mar 8: No Lab***
	Mar 7	Midterm exam (18:30~20:00, TBC)	
	Online Self-study on Class Diagram 1. Object-oriented Analysis Overview 2. Class, Attribute and Method 3. Relationship		
7	Mar 12	Q&A for Online Materials (Optional)	Mar 15: Identifying components of Class Diagram
	Mar 14	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 19	Q&A for Online Materials (Optional)	Mar 22: Developing Class Diagram
	Mar 21	Developing Class Diagram from Use Cases: Group Exercise	
	Online Self-study on Sequence Diagram		
9	Mar 26	Q&A for Online Materials (Optional)	*Mar 29: No Lab*
	Mar 28	*Public Holiday / Mid Term Break*	
	Online Self-study on Sequence Diagram (Con'd)		
10	Apr 9	Q&A for Online Materials (Optional)	Apr 12: Developing Class Diagram (2)
	Apr 11	Sequence Diagram: Review and Group Exercise	
	Online Self-study on Behavioral State Machine		
11	Apr 16	Q&A for Online Materials (Optional)	Apr 19: Developing Sequence Diagram
	Apr 18	Behavioral State Machine: Review and Group Exercise	
	Reading Material: Dr. Chris Exercise		
12	Apr 23	Q&A for Dr. Chris Exercise (Optional)	Apr 26: Developing BSM Diagram and wrap-up
	Apr 25	Wrap up the Key Takeaway of Dr. Chris Exercise Final Exam Review	
13	Apr 30	*Project Work No Class*	May 3: Project Consultation
	May 2	Project Consultation	
14	May 7	*Project Work No Class*	*May 10: No Lab*
	May 9	*** Project Final Report and Second Peer Evaluation Due: May 9 23:59 ***	