ISOM 2010 – Introduction to Information Systems

L07 Spring 2026

Monday (15:00-16:20) and Wednesday (10:30 – 11:50) LSK G012

Instructor Information

Instructor:	**Mr. Xiaodong Yang** xiaodongy@ust.hk
Office Hours:	LSK 4082A By appointment through email
Teaching Assistant	Ms. Sophie J Gu imsophie@ust.hk
Office Hours:	By appointment through email
Questions related to lab:	TAs (follow the announcements in lab Canvas)

Course Materials

Classes will include a mixture of videos, presentations, and lectures. There is **no required textbook** for this course. Additional readings and reference materials can be accessed through the course website.

Reference Book (Optional): *Essentials of Management Information Systems (11th Ed.)* Laudon and Laudon, Pearson Education, 2015 (ISBN13: 9780133576849).

Course Description

In virtually every industry and every firm, information technology (IT) is driving change, creating opportunities and challenges. Leaders who don't understand the fundamentals of information systems (IS) will be at a strategic disadvantage. IS have moved beyond the automation of back-office functions, into the foreground of business strategy. IS play critical roles in competitive positioning and business process design.

This course provides broad coverage of technology concepts and social and economic trends underlying current and future developments in IT, and fundamental principles for the effective use of computer-based IS in businesses and other organizations. There will be a special emphasis on the digital economy, e-commerce, and business analytics. Other topics include: hardware/software, networking, the Internet, database, security, and social media. In additional to the fundamental conceptual and propositions in the IS area, a number of business applications and cases will be discussed.

Learning Outcomes

The goal of this course is to provide you with an introduction to IT-enabled approaches to information management in business contexts. (T-Taught, P-Practiced, M-Measured)

Upon completion of the course, students will be able to

1. Describe how a business organization's choice of strategy and process (what the firm does and how the firm does it) and their resulting effectiveness are closely related to the firm's information management and communications capabilities (T, P).
2. Develop a foundation to develop quantitative and analytical techniques to solve business problems with innovative perspectives that extends beyond this course (T, P, M).

3. Analyze the core technological and business issues and identify critical factors for business decision-making (T, P, M).
4. Evaluate information systems; examine their relations with business strategy, process, and organization (T, P, M).

This course will also provide students with:
1. Skills in producing professional quality business documents, delivering professional quality presentations and communicating ideas persuasively (T, P, M).
2. Ability to lead and work effectively in a team (T, P).
3. Proficiency in using IT applications in business and management; tools for searching, organizing and processing information using appropriate information technology and systems (T, P, M).
4. Preparation for future careers in business and social environments that are deeply permeated with and dependent upon IT (T, P).

We believe that an understanding of the topics covered in this course will pay subtle and unexpected dividends throughout your careers (T, P).

Detailed Learning Goals

Digital Economy

1. Explain data, information, and information systems.
2. Know the meaning of Moore's law, Metcalf's law and their implications.
3. Understand the implications of globalization.
4. Discuss the use of information systems in organizations.
5. Describe the newer aspects of working in the digital world.
6. Define ethics and describe the major ethical problems posed by the digital world.

E-Commerce

1. Describe the nature of e-commerce.
2. Define the e-business value chain and disintermediation.
3. Describe the basic e- commerce models.
4. Examine the major online marketing methods.
5. Discuss the major issues that are created by and affect e- commerce.

Digital Platform

1. Describe the key component of digital platforms.
2. Understand the meaning of Web 1.0, Web 2.0 and Web 3.0.
3. Explain the differences between traditional and social media.

Technical Foundations

1. Identify the major components of hardware and networking technology.
2. Identify the different types of software.
3. Describe the process in software development.
4. Discuss the trends in hardware and software, and the implications to businesses.

Big Data

1. Explain how organizations use data and information.
2. Explain the basic concepts of data management (data creation, sharing, mining, reporting).
3. Define database management systems (DBMS) and describe their various functions.
4. Data storage within and across organizations.
5. Explain how the relational database model works.
6. Describe how databases are developed.
7. Explain how organizations can use data warehousing and data mining for decision making.

8. Describe advanced database models and when their use is appropriate.

Business Analytics and Decision Makings

1. Discuss the problems associated with management decision-making.
2. Explain the specific information needs of managers in different functional areas of an organization, including production, operations, marketing and sales, accounting, human resources and IT.
3. Explain the decision-making process.
4. Describe decision support systems.
5. Describe the opportunities and threats to corporate information system including capabilities in data treatment and analysis, data integrity, system security and issues in access restriction, and business contingency/continuity.
6. Discuss the roles and trend of IT in business analytics and decision making

AI & Emerging Technology

1. Understand the trends of AI and emerging technologies shaping modern information systems.
2. Align AI initiatives with business strategy through a simple use-case portfolio and governance basics.
3. Illustrate value creation levers—revenue, cost, and insight—using real-world examples.
4. Discuss business opportunities of new technologies

Course Grading

Participation	10%
Labs	15%
Midterm Exam	24%
Project	25%
Final Exam	26%
Total	**100%**

Participation (10%): (i) Students are expected to attend the class prepared and to participate in discussions. Students should submit in-class participation records on the lecture Canvas (8%): follow the instruction of each submission to submit a brief statement of the content of the participation within 24 hours after each class. (ii) Students are also expected to attend the invited speakers' sessions in the "Industry Week" as part of course participation (2%).

Labs (15%): The lab sessions will be 50 minutes each, and will cover from basic to advanced skills and knowledge of various database management applications as well as other interesting topics. In almost every lab session, there is a task that you need to complete during the lab session. You MUST attend the lab session to which you are assigned; lab instructors will ask unregistered students to leave. ***You will not get credit for work done during a session for which you are not registered.***

Research Project (25%): This is a group activity (Around 6 students per group) that is intended to allow you to exercise your insights and analytical abilities to a real-life business/application. Each group will select a company to analyze the role and evolution of its information systems (IS). Groups will examine how IS supports the company's strategy and business model, identify challenges related to IS, and propose solutions to tackle these challenges. Deliverables include a comprehensive report detailing their findings and a group presentation to share insights. Evaluation will focus on the depth of analysis, clarity, creativity, and teamwork. ***Each group must submit a 2-page proposal of your final project***.

Presentations of the projects will be given in multiple classes. There are around 4 slots per class, 15 minutes per slot. Presentation quality will reflect clarity, level of effort, and content. Available slots

will be filled on a first-come first-served basis. ***15 points for presentation and 10 points for the final project report. (Format: A4, 1-inch margin on all sides, double-spaced, 11pt, Times New Roman, 12 pages excluding reference and appendixes).*** Detailed guidelines and grading rubrics for presentation and research paper will be provided on Canvas

Mid-term (24%) and Final (26%): These are major check points to ensure that you understand the key concepts that we introduce in this course. The mid-term examination will cover topics in the first two modules, whereas the final examination will cover all other materials that we have introduced in this course. Review sessions will be scheduled to help you prepare for these examinations.

Note: You are prohibited from using generative artificial intelligence (Gen AI) to produce any original materials or contents related to the assignments. However, you may use Gen AI as a copilot in tasks such as brainstorming, grammar checking and etc.

Late Policy

All assignments are due by midnight (11:59 p.m.) A 20% penalty will be deducted for each day or part of a day that an assignment is late. For instance, if you are 1-day late in submission, you or your group will be graded on 80% of your points for the submission. If you 2-days late in submission you or your group will be graded on 60% (reduction of 2 × 20%) of your points for the submission. If you are late by 5 days, then you are better off NOT submitting the deliverable. Please prepare in advance so that you will not encounter technical difficulties that will result in your work receiving a late penalty. If you have a conflict with the due date, assignments can always be submitted early.

Academic Integrity

Academic integrity entails absolute honesty in one's intellectual efforts. UST places a strong emphasis on academic integrity and has introduced new regulations to back this up.

In addition to the course content related to business ethics related to IS/IT, special attention will be put on academic integrity demonstrated when you take this course. You should be especially aware of the policies on cheating and plagiarism. Cheating is any action that violates University norms or an instructor's guidelines for the preparation and submission of assignments. Such actions may include using or providing unauthorized assistance or materials on course assignments, or possessing unauthorized materials during an examination. Plagiarism involves the representation of another's work as your own, for example: (a) submitting as one's own any material that is copied from published or unpublished sources such as the Internet, print, computer files, audio disks, video programs or musical scores without proper acknowledgement that it is someone else's; (b) paraphrasing another's views, opinions or insights without proper acknowledgement or copying of any source in whole or in part with only minor changes in wording or syntax even with acknowledgement; (c) submitting as one's own work a report, examination, paper, computer file, lab report or other assignment which has been prepared by someone else. If you are unsure about what constitutes unauthorized help on an exam or assignment, or what information requires citation and/or attribution, please ask your professor. ***Violations may result in the failure of the assignment, failure of the course, and/or additional disciplinary actions.***
For more information, please visit the following websites:
https://registry.hkust.edu.hk/resource-library/regulations-student-conduct-and-academic-integrity

HKUST BUSINESS SCHOOL 香港科大商學院

Class Schedule L07 (Tentative) Mon 15:00-16:20 &Fri 10:30-11:50

Week	Date	Class	Topic
1	Feb 2	1	Introduction
	Feb 6	2	Digital Economy (I)
2	Feb 9	3	Digital Economy (II)
	Feb 13	4	Digital Economy (III)
3	Feb 16	5	E-Commerce (I) (Due: Group List)
	Feb 20	6	E-Commerce (II)
4	Feb 23	7	E-Commerce (III) (Due: Project Proposal)
	Feb 27	8	E-Commerce (IV)
5	Mar 2	9	Midterm Review (Due: Presentation Slot)
	Mar 6	10	Midterm Exam
6	Mar 9	11	Digital Platforms (I)
	Mar 13	12	Digital Platforms (II)
7	Mar 16	13	Digital Platforms (III)
	Mar 20	14	Business Analytics (I)
8	Mar 23	15	Business Analytics (II)
	Mar 27	16	AI & Emerging Technology (I)
9	Mar 30	17	AI & Emerging Technology (II)
	Apr 3	18	**Mid-Term Break – No Class**
10	Apr 6	19	**Mid-Term Break – No Class**
	Apr 10	20	AI & Emerging Technology (III)
11	Apr 13	21	Industry Week No Class: Please attend industry talks
	Apr 17	22	
12	Apr 20	23	Group Project Prep
	Apr 24	24	Project Presentation (I)
13	Apr 27	25	Project Presentation (II)
	May 1	26	**Public Holiday – No Class**
14	May 4	27	Project Presentation (III)
	May 8	28	Final Exam Review (Due: Project Report)

*Note: Please refer to Canvas for the Lab schedule and syllabus. Contact the TA of your lab section for all lab matters.