IE 0015 - Introduction to Information Systems Engineering
Syllabus
Spring 2022 - 2023

Instructor: Prof. Robert T. P. Lu
Credit Hours: 3
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Office Hours: Tuesdays, Wednesdays, and Thursdays
12:00 PM - 13:50 PM
16:25 PM - 17:35 PM

Office: Zone 4, room 220

Teaching Assistant:

Section 1 Finn Yang
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Section 2 Jeff Ju
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Lectures: Sec. 1: Tuesdays: 13:50 PM - 16:25 PM
Sec. 2: Wednesdays: 13:50 PM - 16:25 PM

Classroom: Sec. 1: Zone 3, room 106
Sec. 2: Zone 3, room 106

Textbook: Introduction To Information Systems, O'Brien and Marakas, 16th edition, Publisher: McGraw-Hill.

Database System Concepts, Abraham Silberschatz, Henry Korth, and S. Sudarshan, 7th edition, Publisher: McGraw-Hill.

Reference book:

Management Information Systems: Managing the Digital Firm15th Edition, Laudon, Kenneth C. and Laudon, Jane P., Publisher: Pearson.

Course Objective

Businesses all over the world are focusing on information as a key resource. Information technology is an essential enabler of engineering and business innovations. This course is intended to provide a broad introductory understanding of information systems. The objectives of this course are for students to learn how to apply, analyze, and manage enterprise information systems to 1) support fundamental business

processes and operations, 2) enhance business decision making, and 3) enable critical strategies for a company to gain competitive advantages in the highly competitive business environment.

Course Outline

The contains of this course will provide students with a solid grounding in engineering analysis and business uses of information technology and systems in a rapidly changing environment. The following topics will be covered:

Foundations of modern information systems engineering
Strategic usage of modern information technologies
Hardware, software, data, and network

Introduction to database management system (DBMS)
Introduction to relational database
Introduction to Structured Query Language (SQL)

Functional/operational information systems
Enterprise level information systems – ERP and CRM Systems
Cross-enterprise system – SCM System
Improving efficiency and streamline business processes
Information system integration
Enterprise information system application architecture

Learning Outcomes

1. Students will understand the fundamental concepts of information systems.
2. Students will comprehend the roles of information systems in business functions and processes
3. Students will have a logical understanding of how the technical parts of the computer-based information system work
4. Learn how to leverage information systems to gain competitive advantages in business
5. Students will have the ability to design and develop various functions of systems and various classes of engineering-oriented and business-oriented application packages
6. Students will possess the capability to design the information system application architecture for an enterprise

Applicable ABET Outcomes

(a) An ability to analyze and interpret data
(b) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(c) An ability to identify, formulate, and solve engineering problems

(d) An ability to communicate effectively
(e) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Pre-requisites No specific courses but students must show sufficient academic maturity.

Co-requisites None

Grading

Semester Test	30%
Project	30%
Homework and Case Study	30%
Class participation – (Think and Discuss)	10%

Final grades

等级成绩 (Level score)	A	A-	B+	B	B-	C+	C	C-	D+	D	F
等级成绩 (Level score)	优秀 (Excellent)		良好 (Good)		中等 (Average)		合格 (Qualified)				不合格 (Failed)
百分制成绩 (Percentage score)	100~90	89~85	84~80	79~76	75~73	72~70	69~66	65~63	62~61	60	<60
成绩绩点 (Grade point)	4	3.7	3.3	3	2.7	2.3	2	1.7	1.3	1	0

Course Policies:

- Students are expected to come prepared for each lecture by reading the appropriate material prior to class
- Unless announced otherwise, questions concerning the grading of homework assignments, project-related materials, or exams must be presented to the instructor or the TA within one week (7 calendar days) after the materials have been made available to the student
- Late assignments will **NOT** be accepted and all assignments, projects, examinations, etc. must be completed/taken at the scheduled time. No exceptions will be made unless there are truly extenuating circumstances
- Cheating or academic dishonesty in any form will result in a grade of F for the course; there will be no exceptions to this policy.
- Professional classroom demeanor is required; in particular, all cell phones and personal electronic devices must remain off or silent during the lecture.

- Do not conduct side conversations during the lecture as it is distracting to the lecturer and other students.

Email Policy I will respond to emails as promptly as I can, usually within 2 days. For detailed technical questions, please come to TA or me during office hour. I will not be addressing detailed technical questions via email as it is not efficient.

Project and Case Study

There will be a project and multiple case studies over the semester. The project and case studies are designed to apply fundamental information system engineering knowledge to solve real-world problems. Detail description of the project and case studies will be provided during class. The project will be individual-based and case studies will be team-based. Evaluation of the project and case studies will be based on both the presentations and the written reports. In the team-based case studies reports and presentation materials, you will need to identify on the cover page which part of the report you were responsible for. The overall performance of the team reports and presentations will account for 50% of your grade and your personal performance of the reports and presentations will account for the other 50%. That means, while the case studies are team-based, the evaluation will be individual-based.

Audio-Video Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussions and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student's own private use.

Make-up exam Policy

Make-up exam grading is only to replace your semester test grading. Students who pass the course after the make-up exam will receive only a passing grade as the final grade.

Special Accommodations

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact the instructor.

Tentative Schedule

Week 1: Foundations of modern information technologies
Week 2: Strategic usage of modern information technologies
Week 3: Hardware
Week 4: Software
Week 5: Data

Week 6: Network
Week 7: Operational support systems
Week 8: Introduction to database management system (DBMS)
Week 9: Introduction to relational database
Week 10: Introduction to Structured Query Language (SQL)
Week 11: SQL application and practice
Week 12: Advanced SQL application and practice
Week 13: Enterprise information system application architecture
Week 14: Enterprise level system – ERP and CRM
Week 15: Cross-enterprise system – SCM
Week 16: Final project presentation
Week 17: Semester test

Semester Test Schedule

TBD