# IE 0015 - Introduction to Information Systems Engineering
## Syllabus
## Spring Term 2018 - 2019

**Instructor:**    Prof. Robert T. P. Lu
**Credit Hours**:  3
**Phone**:         TBA
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**Office Hours**:  Tuesdays and Wednesdays, 16:30 PM - 18:00 PM
**Office:**        Zone 4, room 220

**Teaching Assistant**:
                   TBA
**E-mail**:        TBA

**Lectures:**      Wednesdays, 13:50 PM - 16:25 PM
**Classroom:**     TBA

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

**Reference book:** Database System Concepts, 6th Edition, Abraham Silberschatz, Henry Korth, and S. Sudarshan, 6th edition, Publisher: McGraw-Hill.

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 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
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**   Introduction to computer systems.

**Co-requisites**   None

## Grading

| | |
|---|---|
| Semester Test | 30% |
| Homework | 20% |
| Case Study and Project | 30% |
| Class participation – (Think and Discuss) | 20% |

## Final grades

| Level | Letter Grade | Reported Numerical Score | Grade Points |
|---|---|---|---|
| Superior Performance | A | 90 - 100 | 4.0 |
| | A- | 85 - 89 | 3.7 |
| Meritorious Performance | B+ | 80 - 84 | 3.3 |
| | B | 76 - 79 | 3.0 |
| | B- | 73 - 75 | 2.7 |
| Adequate Performance | C+ | 70 - 72 | 2.3 |
| | C | 66 - 69 | 2.0 |
| | C- | 63 - 65 | 1.7 |
| Minimal Performance | D+ | 61 - 62 | 1.3 |
| | D | 60 | 1.0 |
| Insufficient Performance (Failure) | F | < 60 | 0.0 |

**Course Policies:**

- Students are expected to come prepared for each lecture by reading the appropriate material prior to class
- 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 for return 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 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 multiple project and case studies over the semester. These 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. project 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 project and case studies reports, you will need to identify 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 report and presentation will account for the other 50%. That means, while project and 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, discussion 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.

**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: Enterprise information system application architecture
Week 13: Enterprise level system – ERP
Week 14: Enterprise level system – CRM
Week 15: Cross-enterprise system – SCM
Week 16: Project Presentation
Week 17: Semester Test