Course Description

This course introduces the basic concepts in information technology and explores the many applications of information technology in our daily life. Lectures in the course will introduce the key concepts and trace the history of the major breakthroughs throughout the development of information technology:

- Electromagnetism and dawn of a revolution
- The world in 0 and 1
- The transistor and the silicon revolution
- The computing machine
- Claude Shannon and information theory
- Wired and wireless communication
- Information security and digital commerce
- The worldwide network
- Emerging technologies including AI, big data, cloud computing, blockchain, and quantum computing

Via group-based discussions, presentations, and debates, students will examine the impacts of these breakthroughs on various aspects of our society.

Course Objectives

• To understand the major breakthroughs in the development of Information Technology in the past 100 years including theory, devices, software and systems, their significance and impacts in both the technology development and the social implications.

• To trace the historical journey of the development and to understand how they shaped various sectors in the society.

• To allow students to expand using their creativity in imaging how IT will continue to develop and what changes it may bring to our future.

Intended Learning Outcomes

Students taken this course are expected to be able to

1. Identify the key advances in information technology and related enabler in various technology
2. Understand how advances in information technology are applied to different fields and the revolutionary changes they brought to those fields
3. Evaluate the key benefits and potential drawback or issues underlying these changes.
4. Recognize the future trend in information technology development and possible benefits and issues associated with these development trends
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Grading (Tentative)

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Online Quizzes</td>
<td>10% (Best 6 of 7 quizzes)</td>
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<tr>
<td>Topical Studies and Group Presentations</td>
<td>40%</td>
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<tr>
<td>Debate Statement</td>
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<tr>
<td>Final Exam</td>
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Recommended Text