

**Fundamentals of Computer Science and Engineering**

Basic Course Information		
Course Number	000592	Subject Category
Class Format	Lecture	Credit Type and Number of Credits
Department	Computer	Student Category
Period of Study	Semester 2	Classes per Week
Required Materials	Materials will be distributed.	
Instructor	Yuk Yoshikawa	Mo Kobayashi
		Thirawat

**Course Objective**  
 The course provides an insight into Fundamentals of Computer Science and Engineering. It covers Introduction to computer architecture, processor design, operating systems, internet & computer networks, embedded systems, mobile computing, software engineering, database systems, etc.

Evaluation/Prubial	Minimal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Can explain computer architecture, processor design and embedded systems	Can explain computer architecture, processor design and embedded systems appropriately	Can explain computer architecture, processor design and embedded systems	Can not explain computer architecture, processor design and embedded systems
Can explain mobile systems	Can explain mobile systems appropriately	Can explain mobile systems	Can not explain mobile systems
Can explain database systems	Can explain database systems appropriately	Can explain database systems	Can not explain database systems
Can explain operating systems	Can explain operating systems appropriately	Can explain operating systems	Can not explain operating systems
Can explain software engineering	Can explain software engineering appropriately	Can explain software engineering	Can not explain software engineering
Can explain internet of things and computer networks	Can explain internet of things and computer networks appropriately	Can explain internet of things and computer networks	Can not explain internet of things and computer networks
Can explain artificial intelligence	Can explain artificial intelligence appropriately	Can explain artificial intelligence	Can not explain artificial intelligence
Can explain digital processing	Can explain digital processing appropriately	Can explain digital processing	Can not explain digital processing
Can explain web/mobile application	Can explain web/mobile application appropriately	Can explain web/mobile application	Can not explain web/mobile application

**Relationship with Learning Outcomes**

**CO1) Ability to understand the operating system and to develop software to solve specific problems.**

**CO2) Ability to design, process and implement IoT (Internet of Things) systems and solutions.**

**CO4) Ability to understand the computer network system and security methods and to implement the safe system within networks, servers, computers, and connected devices.**

**Teaching Method**

Outline:	Lecture and discussion
Class Format:	Lecture

**Course Plan**

Semester 2	Contents and Method of Course	Goals	Related MCC
1st week	Computer Architecture (Yuk)	Understand the topics of the subject and have an interest in future studies	V, G, A
2nd week	Logic Design and Sequential Circuits (Yuk)	Understand the topics of the subject and have an interest in future studies	
3rd week	Database Systems (Zusael)	Understand the topics of the subject and have an interest in future studies	
4th week	Artificial Intelligence (Zusael)	Understand the topics of the subject and have an interest in future studies	
5th week	No class (Holiday)		
6th week	Operating Systems and Security (Moi)	Understand the topics of the subject and have an interest in future studies	
7th week	Software Engineering (Moi)	Understand the topics of the subject and have an interest in future studies	
8th week	Digital Processing (Tanapon)	Understand the topics of the subject and have an interest in future studies	
9th week	No class (Midterm exam)		
10th week	No class (Midterm exam)		
11th week	Digital Processing (Tanapon)	Understand the topics of the subject and have an interest in future studies	
12th week	Network Security (Mae)	Understand the topics of the subject and have an interest in future studies	
13th week	Network Security (Mae)	Understand the topics of the subject and have an interest in future studies	
14th week	Internet of Things (Png)	Understand the topics of the subject and have an interest in future studies	
15th week	Internet of Things (Png)	Understand the topics of the subject and have an interest in future studies	
16th week	Web/Mobile Application (Nooni)	Understand the topics of the subject and have an interest in future studies	
17th week	Web/Mobile Application (Nooni)	Understand the topics of the subject and have an interest in future studies	
18th week	wrap-up		
19th week	No class (Final exam)		

Do not

	Examination	Quiz	Final Exams between systems	Report	Projects	Other
Basic Ability				50		
Technical Ability				50		
Interdisciplinary Ability				50		