Assumption University
Vincent Mary School of Engineering
EE3704: Embedded System

Instructor : **Narong Aphiratsakun, D.Eng**
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Office : **VME0201/VME0602**
Class Time : **Tue, Thu 10.30-12.00, 13.30-16.30**

Course description
Architecture, features and instruction sets of microcontrollers processors, interfacing techniques, requirements of power applications, external memory, peripherals, timers, DAC and ADC, sampling and real time considerations, interrupt, programming, data acquisition.

Objective
1. Student will be able to write C programming with Microcontroller based.
2. Student will get hand on experiment using Arduino Uno with many equipments.
3. Student will be able to design his/her own PCB

Teaching and learning activities
- ✓ Lecture slides
- ✓ Examples
- ✓ Quizes

Lesson Plans
- Chapter 1 : Introduction to Arduino Board
  - Overview
- Chapter 2 : Digital Output
  - Active High / Active Low
  - LED and 7 – segment (CC/CA)
- Chapter 3 : Digital Input
  - Active High / Active Low
- Chapter 4 : Serial Communication
  - Input/Reading/Writing Status
- Chapter 5 : Analog Input
  - Reading Analog Input Value
- Chapter 6 : PWM
  - PWM functions and applications
- Chapter 6.5 : Printed Circuit Board Design (PCB)
  - Basic PCB design with Autodesk
- Chapter 7 : Interrupts
  - Timer
  - External
- Chapter 8 : Wifi Module Communication
  - Control of equipment via application on Android

Evaluation:	Class Performance	25 %
	Report	15 %
	Quizzes (5+5)	10 %
	Final Examination	50 % (Written/Practical)
	Total	100%

Slides: Provided by instructor