

# Hallym Creative Syllabus

\* Time : 2018-08-08 22:53:55

Course Title				Professor			
Course Name	임베디드 시스템	Course Code / Section	506829/01	Major	공과대학	Office Number	1203호실
Course Category	공통전선	Hours	화5,6 목5,6	Professor's Name	김의직	Professor's Name	
Class room	1102A, 1226	Credit-Classroom Hours	3-2-2	e-mail	ejkim32		
				Room Number	2333	Office Hours for Student	월,화,수,목,금 1,2,3,4교시



## 1. Course Overview

### 1. Description

In this course, students understand the basic concepts of embedded system software and hardware and learn the embedded system-related knowledge. Students use the open source HW development board(e.g., Raspberry Pi) to learn practical knowledge about embedded systems such as building the embedded system development environment, peripheral control, and application development.

### 2. Prerequisites

None.

### 3. Course Format

Lecture	Discussion	PBL	Cooperative/Individualized Learning	B/L	Experiment/Practicum	Field study	Other
30 %	0 %	30 %	0 %	0 %	40 %	0 %	0 %

## 2. Course Objectives

- Lectures and labs will be conducted at 50:50.
- Lecture and presentation on Internet of Things (IoT) and embedded systems.
- Labs and projects using the open source HW development board.

## 3. Teaching Method

Students understand the basic concepts of embedded system software and hardware and learn the embedded system-related knowledge. Students use the open source HW development board(e.g., Raspberry Pi) to learn practical knowledge about embedded systems such as building the embedded system development environment, peripheral control, and application development.

## 4. Evaluation Breakdown

Grading Distribution(Grading Policy) (%)
<ul style="list-style-type: none"><li>- Assignments (Project/Report/Presentation) : 40 %</li><li>- Midterm Exam : 25%</li><li>- Final Exam : 25%</li><li>- Attendance: 10%</li></ul> <p>* Please note that the ratio of each criterion item is tentative.</p>
How the class is evaluated
TBD
Attendance Policy
Being absent for 4 weeks will result in an F.

## 5. Course Policies

"Copy" is strongly prohibited during the labs and projects.
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## 6. Materials

Class	Book Title, Author, Publication, Year of publication
Textbook	Handouts will be provided during the class.
Reference Books	Handouts will be provided during the class.

## 7. Weekly Lesson Plan

Week	Category	내용
1	- Learning Objectives	Course Intro Lab Intro
	- Topics	Course Intro Lab Intro
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD
2	- Learning Objectives	Introduction to Embedded System Development Environment Setup
	- Topics	Introduction to Embedded System Development Environment Setup
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD
3	- Learning Objectives	Open Hardware Platform Linux Command
	- Topics	Open Hardware Platform Linux Command
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD
4	- Learning Objectives	Embedded System Communication GPIO Control: LED, Button
	- Topics	Embedded System Communication GPIO Control: LED, Button
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD
5	- Learning Objectives	Digital Analogue I/O #1 GPIO Control: PWM, ADC, Variable Resistor
	- Topics	Digital Analogue I/O #1 GPIO Control: PWM, ADC, Variable Resistor
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD
6	- Learning Objectives	Digital Analogue I/O #2 GPIO Control: Servo Motor
	- Topics	Digital Analogue I/O #2 GPIO Control: Servo Motor
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD

7	- <b>Learning Objectives</b>	IoT Concept and Architecture GPIO Control: Thermometer
	- <b>Topics</b>	IoT Concept and Architecture GPIO Control: Thermometer
	- <b>Class</b>	Lecture and practice
	- <b>Materials</b>	Handout
	- <b>Assignments</b>	TBD
	- <b>Evaluation</b>	TBD
8	- <b>Learning</b>	Mid-term exam
	- <b>Topics</b>	
	- <b>Class</b>	
	- <b>Materials</b>	
	- <b>Assignments</b>	
	- <b>Evaluation</b>	
9	- <b>Learning Objectives</b>	Lightweight Web Protocol – CoAP #1 jCoAP Open Source #1
	- <b>Topics</b>	Lightweight Web Protocol – CoAP #1 iCoAP Open Source #1
	- <b>Class</b>	Lecture and practice
	- <b>Materials</b>	Handout
	- <b>Assignments</b>	TBD
	- <b>Evaluation</b>	TBD
10	- <b>Learning Objectives</b>	Lightweight Web Protocol – CoAP #2 jCoAP Open Source #2
	- <b>Topics</b>	Lightweight Web Protocol – CoAP #2 iCoAP Open Source #2
	- <b>Class</b>	Lecture and practice
	- <b>Materials</b>	Handout
	- <b>Assignments</b>	TBD
	- <b>Evaluation</b>	TBD
11	- <b>Learning Objectives</b>	Introduction to CoAP Open Source Project Project Development #1
	- <b>Topics</b>	Introduction to CoAP Open Source Project Project Development #1
	- <b>Class</b>	Lecture and practice
	- <b>Materials</b>	Handout
	- <b>Assignments</b>	TBD
	- <b>Evaluation</b>	TBD
12	- <b>Learning Objectives</b>	Project Plan Presentation Project Development #2
	- <b>Topics</b>	Project Plan Presentation Project Development #2
	- <b>Class</b>	Lecture and practice
	- <b>Materials</b>	Handout
	- <b>Assignments</b>	TBD
	- <b>Evaluation</b>	TBD
13	- <b>Learning Objectives</b>	Project Development #3 Project Presentation #1
	- <b>Topics</b>	Project Development #3 Project Presentation #1
	- <b>Class</b>	Lecture and practice
	- <b>Materials</b>	Handout
	- <b>Assignments</b>	TBD
	- <b>Evaluation</b>	TBD

14	- Learning Objectives	Project Presentation #2 Project Presentation #3
	- Topics	Project Presentation #2 Project Presentation #3
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD
15	- Learning	Final exam
	- Topics	
	- Class	
	- Materials	
	- Assignments	
	- Evaluation	
보충	- Learning	Makeup lecture
	- Topics	Makeup lecture
	- Class	Lecture and practice
	- Materials	Handout
	- Assignments	TBD
	- Evaluation	TBD

## 8. Miscellaneous

TBD
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