Experiments of Electronics1

Syllabus Number 3E315
Basic Major Subjects
Elective Requisites 2 credit

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1. Course Description

The content of implementation in this experiment was shown the following lists.
(1) We will make the actual wiring diagram by reading the circuit diagram.
(2) We will understand the peripheral functions and fundamental principle of microcomputer.
(3) We will understand the using method and fundamental principle of sensors.
This course is related to DP4.

2. Course Objectives

(1) Student can make the actual wiring diagram by circuit diagram.
(2) Student can explain the peripheral functions and construction of microcomputer.
(3) Student can explain the sensors (encoder, image sensor etc.).

3. Grading Policy

We will evaluate the student performance by reports and assignments.
All the reports should be submitted.

4. Textbook and Reference

Textbook
We use LMS and handouts.

5. Requirements(Assignments)

Preparation for the class: 1.5 hours
Review of the class ：1.5 hours

6. Note

Course contents might be modified.

7. Schedule

[1] Guidance
[2] Electrical/Electronic circuits1: Actual wiring diagram and circuits
[3] Electrical/Electronic circuits2: Reading the circuits and make the electronic circuits
[4] Electrical/Electronic circuits3: Applied work
[5] Microcomputer1: Digital signal (Digital input/output)
[6] Microcomputer2: Analog signal (A/D conversion)
[7] Microcomputer3: Interrupt (Timer interrupt)
[8] Microcomputer4: Serial communication (I2C)
[9] Microcomputer4: Serial communication (SPI)
[10] Microcomputer5: PWM signal and motor driver circuit
[11] Sensor1: Photointerrupter
[12] Sensor2: Rotary encoder
[13] Sensor3: Image sensor
[14] Sensor4: Wireless communication
[15] Summary and report guidance