Experiments of Electronics1

1. Course Description
The main topics are as follows:
Part I (1st week to 8th week): digital and/or analog circuit design, its prototyping and evaluation
Part II (9th week to 15th week): sensor systems, motor control, reinforcement learning

2. Course Objectives
This laboratory course aims to familiarize students with robotics. Students will also have experience of digital and/or analog circuit design, prototyping and evaluation. Through experiments students will acquire knowledge and skills of wide range of electronics and information technology.

3. Grading Policy
Students are evaluated with five reports. Students are required to attend all the lectures and to submit all five reports.

4. Textbook and Reference
Textbook
No textbook is used.

5. Requirements(Assignments)

6. Note

7. Schedule

[1]	Guidance: fundamentals of electric and electronic engineering
[2]	(Fundamentals of D/A PWM): generation of PWM signal
[3]	(Fundamentals of D/A PWM): control of various instruments
[4]	(Fundamentals of D/A PWM): prototyping and evaluation
[5]	Microcomputer (signal processing): input-output of analog signals
[6]	Microcomputer (signal processing): input-output of digital signals
[7]	Microcomputer (signal processing): A/D, D/A
[8]	Microcomputer (signal processing): prototyping and evaluation
[9]	Microcomputer (sensor-motor system): sensor system I
[10]	Microcomputer (sensor-motor system): sensor system II
[11]	Microcomputer (sensor-motor system): motor control I
[12]	Microcomputer (sensor-motor system): motor control II
[13]	Microcomputer (sensor-motor system): reinforcement learning I
[14]	Microcomputer (sensor-motor system): reinforcement learning II
[15]	Summary