

# Exercises in Robotics2

Syllabus Number

3E162

Special Subjects

Elective 1 credit

IKEMATA, Yoshito

## 1. Course Description

The main topics are as follows:

- (1) Sensor and motor systems
- (2) Soccer robot
- (3) Rescue robot

## 2. Course Objectives

This class is the advanced course of exercises in robotics. In order to obtain the knowledge and skills of robotics, students will develop various robots.

## 3. Grading Policy

Students are evaluated based on the achievement of objectives and tasks.

## 4. Textbook and Reference

Textbook

Textbooks, robot kits, tools and computers are prepared.

## 5. Requirements(Assignments)

Students are required to pay 3,000 JPY for this lecture.

## 6. Note

## 7. Schedule

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| [1]  | Introduction, checking your robot kit and setting up your software development environment |
| [2]  | Fundamentals of robot making   |
| [3]  | Soccer robot: task and regulation  |
| [4]  | Soccer robot: looking for a ball   |
| [5]  | Soccer robot: dribbling a ball   |
| [6]  | Soccer robot: shooting a ball  |
| [7]  | Soccer robot: making a goal keeper robot   |
| [8]  | Soccer robot: game and evaluation  |
| [9]  | Rescue robot: task and regulation  |
| [10] | Rescue robot: utilizing infrared sensors   |
| [11] | Rescue robot: implementing line trace function   |
| [12] | Rescue robot: looking for victims  |
| [13] | Rescue robot: basic course I, II   |
| [14] | Rescue robot: advanced course III, etc.  |
| [15] | Summary  |