

# Exercises in Robotics2

Syllabus Number

3E162

Special Subjects

Elective 1 credit

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## 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

- [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