



Robotics Course (Level II): Mini Robocon Hong Kong Phase II Training

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Intended Learning Outcomes

Upon completion of the programme, participants should be able to:

1. explain various aspects of knowledge in robotics (e.g., mechanics, electronics, pneumatics);
2. design and build robots to perform missions specified by the Mini Robocon Hong Kong competition;
3. write programmes to instruct the robots via wireless controllers;
4. solve real world problems with iterative refinement process;
5. work collaboratively to build their robots and participate in the competition.



◆ Introduction

Students are going to build and write programs for robots in “Mini Robocon Hong Kong” by using Makeblock Ultimate 2 kit. This kit includes robot-base construction, mechanical design choices, ball launcher design, wireless remote controller design and basics of automation. Students are also required to read the rulebook and understand the mission requirements. Students will have hands-on experiences on designing and building robots through design process to instruct the robots to communicate with a wireless controller with programs.

◆ Schedule

| Session | Date | Time | Venue |
|-------------------------|-------------|------------------------|--|
| 1 | 10 Dec 2022 | 9:00 a.m. – 12:00 noon | Conference Hall 1, G/F, Meeting Room 04, 1/F, Core Building One, Hong Kong Science Park (MAP) |
| 2 | | 1:00 p.m. – 4:00 p.m. | |
| 3 | 14 Jan 2023 | 9:00 a.m. – 12:00 noon | |
| 4 | | 1:00 p.m. – 4:00 p.m. | |
| 5 | 11 Feb 2023 | 9:00 a.m. – 12:00 noon | |
| 6 | | 1:00 p.m. – 4:00 p.m. | |
| 7 | 25 Feb 2023 | 9:00 a.m. – 12:00 noon | |
| 8 | | 1:00 p.m. – 4:00 p.m. | |
| 9 | 11 Mar 2023 | 9:00 a.m. – 12:00 noon | |
| 10 | | 1:00 p.m. – 4:00 p.m. | |
| 11 | 25 Mar 2023 | 9:00 a.m. – 12:00 noon | |
| 12 | | 1:00 p.m. – 4:00 p.m. | |
| Competition (E2ROB002K) | 26 Mar 2023 | 10:00 a.m. – 6:00 p.m. | Grand Hall, 1/F, 12W, Phase 3, Hong Kong Science Park (MAP) |

◆ Target Participants

- S1 – S4 HKAGE student members
- Class size: 15

Students who have satisfactorily completed “Robotics Course (Level II): Mini Robocon 2022 Phase I Training (E2ROB001C)”

◆ Medium of Instruction

Cantonese with English Handouts

◆ Certificate

E-Certificate will be awarded to participants who have:

- attended at least 9 sessions; and
- completed all the assignments with satisfactory performance.