

COURSE DETAIL

INTRODUCTION TO ROBOTICS

Country

Hong Kong

Host Institution

Chinese University of Hong Kong

Program(s)

Hong Kong Summer, CUHK

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mechanical Engineering

UCEAP Course Number

120

UCEAP Course Suffix**UCEAP Official Title**

INTRODUCTION TO ROBOTICS

UCEAP Transcript Title

INTRO TO ROBOTICS

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

The course covers the basic and fundamentals to the study of robotic manipulators, including: classification of robots, robot sensors and actuators, coordinate frames and homogeneous transformations, Denavit-Hartenberg notation, forwards and inverse kinematics, Jacobians and statics, singularity and workspace analysis, and trajectory generation. The course includes a creative project component for students to apply robot manipulators for a new and innovative application. This requires the students to design a new application for robot manipulators that would be useful to the community and globally. By using the introduction to the state-of-the-art in robotics around the world, and fundamentals learnt in the course, the students have to innovatively design and present the idea as a mock start-up company project.

Language(s) of Instruction

English

Host Institution Course Number

MAEG3060

Host Institution Course Title

INTRODUCTION TO ROBOTICS

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mechanical & Automation Engineering

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