

Robot Programming Course

Course Overview

This course provides the students with an introduction to the fundamental concepts of robotic manipulation and programming.

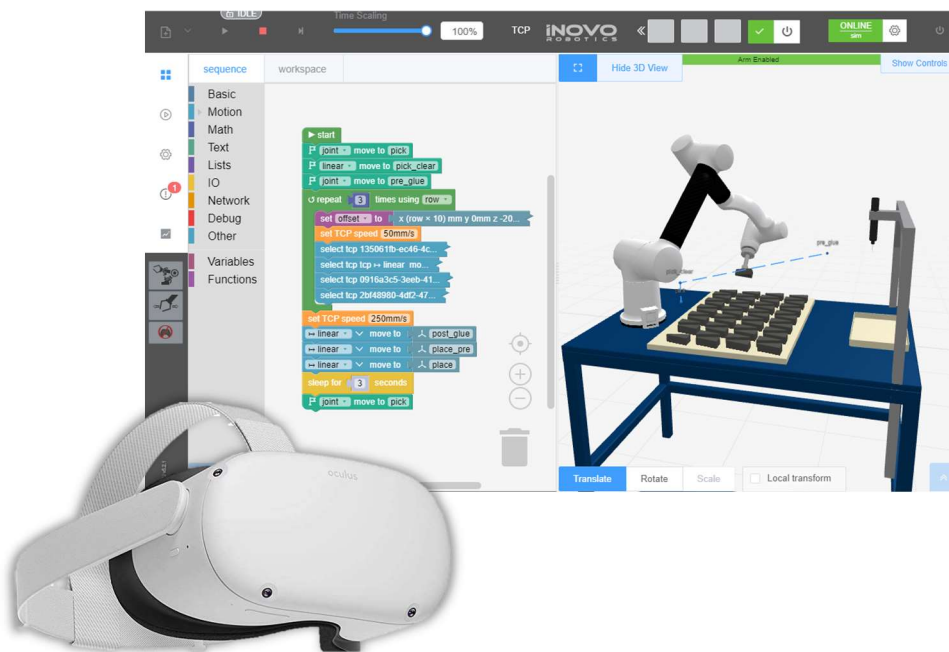
Initially working in simulation, they will learn:

1. how to move the arm in various modes
2. controlling path
3. speed and tools.

They will learn how to program the robot:

1. to do tasks autonomously
2. gain an understanding of logic and interfacing to the machine.

In the final stages of the course the students will learn how to run and test their simulations on a real robot.



Format

The student can work individually or in a team of 2-3. The first part of the course requires them to work through exercise in the web-based simulator. This is done on a standard PC or Mac with a web browser and good internet connection. No software needs to be installed. Each module includes an online guide with interactive task for the student to learn through. They are assessed via a set of online questions and through the robot simulation system.

QR for course content video:



Contact us:

Phone / WhatsApp: +852-95578789 Web: www.inovorobotics.com

Target Profile

This course is designed for students who got good foundation level of IT skills, including: use of mouse, web browser, file handling etc. No previous coding experience is required.

Duration

The course is designed to take a total of 18h and can be run as a 1.5h per week over 12 weeks.

Course content

	Title	Content	Content Highlight	No. of Students	Duration
Module 1	Introduction to robot control	<p>What is a robot arm, where are they used?</p> <p>How is it like a human arm?</p> <p>What is the future of robot arms and why do we need them?</p> <p>Dull, Dangerous, Dirty jobs. /Future of robot arms is AI and doing working Automatically.</p>	Demonstration in Inovo Robot	Max. 120 students	2h
Module 2	Programming Introduction	<p>Introduction to programming software. (3D views, Joint & Cartesian Moves, Reach, Payload & Singularities Waypoints types)</p> <p>Workspace, Simple Programming, Repeating commands</p>	Programming Sequences	<p>Max. 15 groups (2-3 students in a group)</p>	3h
Module 3	Intermediate Advanced Programming	<p>Applying functions: Blends, Velocity, Acceleration, Logic, Variables, Lists, Grids and IO.</p> <p>Working in Virtual Reality</p>	<p>Optimizing paths</p> <p>Using VR</p>	<p>Max. 8 groups (2-3 students in a group)</p>	4h
Module 4	Exercise – Get the robot move!	<p>Practice how to move the robot I</p> <p>Creating a program to move the robot II</p> <p>Working in Virtual Reality</p>	Task based learning	<p>Max. 8 groups (2-3 students in a group)</p>	4h
Module 5	Applying in the real world	Transferring simulation to a real robot. Frames, Aligning and tuning.	Testing on a real robot!	<p>Max. 8 groups (2-3 students in a group)</p>	3h

QR for course content video:

Contact us:

Phone / WhatsApp: +852-95578789 Web: www.inovorobotics.com

