

HALF DAY 2 SERIES WORKSHOP ON EXPLORING ARTEC ROBO 2.0 WITH PYTHON AND SCRATCH



ROBOTICS

PROGRAMMING

ARTIFICIAL
INTELLIGENCE

LIMITED TO 10
PAX ONLY!

Date : 26 October 2024 & 02 November 2024

**Venue: MAKER SPACE, GROUND FLOOR,
WISMA IEM**

Platform : PHYSICAL

Time : 9.00am - 2.00pm

BEM APPROVED CPD HOURS : Applying

CPD ref : IEM24/HQ/XX/W

DON'T MISS YOUR CHANCE TO BE A
PART OF EXCITING JOURNEY INTO THE WORLD OF
ROBOTICS, PROGRAMMING, AND ARTIFICIAL
INTELLIGENCE.

REGISTRATION FEES
IEM MEMBER : RM300
NON IEM MEMBER :
RM 400

*Price includes for both
session*

HALF DAY 2 SERIES WORKSHOP ON EXPLORING ARTEC ROBO 2.0 WITH PYTHON AND SCRATCH

OBJECTIVE

1.	Introduction to Artec Robo 2.0: Participants will gain a comprehensive understanding of the Artec Robo 2.0 kit, including its hardware components and the ESP32 microprocessor. By the end of the workshop, attendees will be proficient in setting up and assembling their own Artec Robo 2.0 robots.
2.	Scratch Programming Basics: Through interactive sessions, participants will learn the fundamentals of programming in Scratch. They will explore the Scratch interface, understand basic programming concepts, and develop their first programs to control the Artec Robo 2.0.
3.	AI and Image Recognition with Scratch: Delving deeper into Scratch programming, attendees will discover how to integrate artificial intelligence and image recognition capabilities into their Artec Robo 2.0 projects. By the end of this session, participants will be able to program their robots to recognize and react to objects using Scratch.
4.	Python Programming and Wireless Communication: Building upon their Scratch programming skills, participants will transition to Python programming for advanced control of the Artec Robo 2.0. They will learn how to harness the power of Python to enable wireless communication between multiple robots, facilitating collaborative projects and complex interactions.
5.	Hands-on Project Implementation: Throughout the workshop, attendees will engage in practical, project-based learning experiences. From simulating traffic control centers to implementing AI-driven solutions, participants will work in small groups to apply their newfound knowledge and creativity.

PROGRAM TENTATIVE

WORKSHOP 1: ROBOTICS & AI WITH ARTEC ROBO 2.0: HANDS-ON PROGRAMMING WITH SCRATCH 26 OCTOBER 2024

Time	Agenda
8.00am - 9.00am	<ul style="list-style-type: none"> • Registration and breakfast • Participants sign in and receive workshop materials. • Introduction to the workshop agenda and objectives.
9.00am	<p>Overview of Workshop</p> <ul style="list-style-type: none"> • Introduction to the Artec Robo 2.0 kit and its components. • Explanation of the ESP32 microprocessor. • Overview of the programming environments: Scratch and Python.
10.00am	<p>Programming Basics</p> <ul style="list-style-type: none"> • Introduction to the Scratch programming environment. • Explanation of the Scratch interface and basic programming concepts. • Creating a simple Scratch program to control the Artec Robo.
11.00am	<p>Seeing with AI Project</p> <ul style="list-style-type: none"> • Introduction to the Seeing with AI project. • Programming the Artec Robo 2.0 using Scratch with AI and image recognition. • Demonstrating how to make the robot recognize and react to objects using Scratch's visual programming capabilities.
1.00pm	<ul style="list-style-type: none"> • Q&A and Wrap-up for Workshop Session 1

PROGRAM TENTATIVE

WORKSHOP 2: ROBOTICS & PYTHON: BUILDING INTELLIGENT SYSTEMS WITH ARTEC ROBO 2.0 02 NOVEMBER 2024

Time	Agenda
8.00am - 9.00am	<ul style="list-style-type: none"> Registration and breakfast
9.00am	<p>Python Programming Basics</p> <ul style="list-style-type: none"> Introduction to Python programming for the Artec Robo 2.0. Programming Basics <p>Introduction to programming with Artec Robo 2.0</p> <ul style="list-style-type: none"> Programming with Buzzers and Sensors Programming with Motors
10.00am	<p>Wireless Communication</p> <ul style="list-style-type: none"> Inter-Device Communication Building Traffic Control Project
11.00am	<p>Project Implementation and Testing</p> <ul style="list-style-type: none"> Participants work in small groups to implement and test their traffic control systems. Troubleshooting common issues and debugging.
1.00pm	<ul style="list-style-type: none"> Q&A and Wrap-up for Workshop Session 2



ORGANISED BY INFORMATION TECHNOLOGY SPECIAL INTEREST GROUP (ICTSIG)

REGISTRATION FORM

HALF DAY 2 SERIES WORKSHOP ON

EXPLORING ARTEC ROBO 2.0 WITH PYTHON AND SCRATCH

26th October 2024 & 02 November 2024 (SATURDAY)
Email : shamalah@iem.org.my

No	Name(s)	Membership No.	Grade	Fee (RM)*
SUB TOTAL				
(PLEASE ADD) + SST 8%				
TOTAL PAYABLE				

"IEM reserves the right to alter or cancel the programme due to unforeseen circumstances at its discretion".
IEM SHALL NOT be responsible for any direct or consequential losses".

For further details, kindly contact:
The Institution of Engineers, Malaysia

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