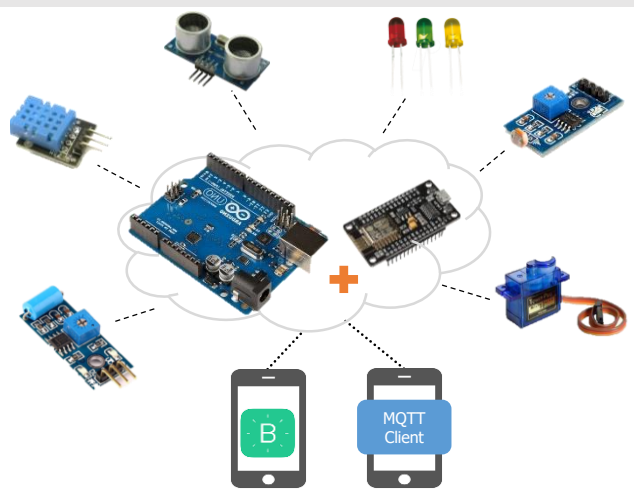


5-DAY

Workshop on IoT Application Development Using Arduino

COURSE

- DAY 1** Module 1: Introduction to IoT and Arduino UNO Development Board
- DAY 2** Module 2: Arduino UNO and MIT Application via Bluetooth (HC-05)
- DAY 3** Module 3: IoT with Arduino UNO + NodeMCU ESP8266 using Blynk Application and Thingspeak.com
- DAY 4** Module 4: Real-Time Data Transfer with MQTT and IFTTT Protocol
- DAY 5** Module 5: Build Your Own IoT Projects



Training Instructor : Nur `Aqilah binti Zainuddin

Experiences and Awards :

- 1st Runner up in Innovate Malaysia Design Competition (IMDC) 2015 under Silterra track for "Resistive-Based Tactile Sensor System For Prosthetic Fingers Application" project
- Conduct Arduino Workshop for UiTM Electrical Engineering students and IoT training for UiTM Computer Science & Mathematics students
- 3 years of teaching experience for Arduino class at Aiszzy Electronics Enterprise
- Currently pursuing Master of Science (Electrical Engineering) and her research interest is "Open Architecture Humanoid Robot Controller in Support DD Rehabilitation"



Date/Time	Venue	Fees
11th -15th March 2019 9am – 4pm	MTDC, UiTM Shah Alam	RM1750 Discount RM100 for IEEE member Local Order (LO) is accepted



Register before 9th March 2019

Contact us via Whatsapp/call at:

- +6010-2220539**
- +6011-36127549**
- +6012-3998839**

aiszzyelectronics@gmail.com



Co-Organizer:



Additional Information & Requirement

- Open to all participants (Basic electronics/engineering background is NOT required)
- Please bring your own laptop (Processor i3 and above) and Android Mobile phone (Version 5.1.1 and above)
- Learning material will be given including manual book, source code and required software
- Each participant will have Arduino Basic Kit (worth RM280)

**Please visit www.iexplotech.com for any additional information

WORKSHOP DETAILS

Course Name	Workshop on Internet of Things (IoT) Application Development using Arduino
Main Instructor	Nur `Aqilah binti Zainuddin
Course Outcomes	<ol style="list-style-type: none"> 1. Learn Internet of Things (IoT) architecture and its real life applications 2. Understand the fundamentals of Arduino UNO and NodeMCU ESP8266 development board 3. Learn to code C/C++ programming language using Arduino IDE software 4. Learn to transmit/receive data wirelessly from Arduino UNO to MIT Application via Wi-Fi and Bluetooth 5. Learn to store and manage IoT open source database 6. Able to build your own innovative projects using IoT platform
Synopsis	<p>Fundamental of microcontroller development board (Arduino UNO + NodeMCU ESP8266) with Internet of Things (IoT) will be exposed throughout this 5-day IoT workshop. Everything you ought to know about IoT will be clarified here as what actually IoT is, how does it works and what its significant to the community. This IoT workshop consists of 80% practical session and 20% theory. Therefore, participants will get to learn to program C/C++ programming language on Arduino IDE. Hands-on activity is included too where participants will experience on how to do circuit assembly using solderless board. This consequently will develop participants' troubleshooting skill as well as enhance their critical thinking. Additionally, participants will learn to build variety of IoT projects for real life applications. All in all, this worthwhile IoT workshop eventually will spark participants' interest to build their own innovative IoT projects in future.</p>
Additional Information & Requirement:	<ol style="list-style-type: none"> 1. Open to all participants (Basic electronics/engineering background is NOT required). 2. Bring your own laptop to the workshop (Windows 7 and above and Processor i5 for laptop before year 2016 or Processor i3 for laptop after year 2016). 3. Mobile Phone Android Version 5.1.1 and above. 4. Certificate is provided by the end of this workshop. 5. Learning material will be given during the workshop as manual book, Arduino IDE software and source code. 6. Each participant will have IoT Workshop kit (worth RM280).
Payment Details:	<p>Payment can be made by:</p> <ol style="list-style-type: none"> 1. Cash, Bank Deposit & Local Order (LO) using Research Grant. RM300 needs to be paid upon registration and will be returned after we have received full payment from your company/institution. <ul style="list-style-type: none"> <li style="text-align: center;">And • Provide Local Order (LO) from your company/institution upon registration. <p style="margin-left: 40px;">Note: You may request a QUOTATION for this training from Aiszzy Electronics.</p> 2. Payment must be made in 3 days before the date of workshop. <p style="text-align: center;">Bank : CIMB Bank Account Name : Aiszzy Electronics Enterprise Account No : 8008832565</p>

COURSE DETAILS

Module	Module Details	Duration
Module 1: Introduction to IoT and Arduino UNO Development Board	<ol style="list-style-type: none"> Talks on principle of IoT and its applications in real life Fundamental of Arduino microcontroller development board (Arduino UNO) Construct circuits using breadboard and learn to program C/C++ programming language such as: <ul style="list-style-type: none"> Light up LEDs/RGB LED Produce sound with buzzer Push button Control servo motor using potentiometer Build variety of systems with different types of sensors: <ul style="list-style-type: none"> Temperature & humidity sensor (DHT-11) Ultrasonic distance sensor (HC-SR04) Light sensor (LDR module) Vibration sensor (SW-420) 	1 day
Module 2: Arduino UNO and MIT Application via Bluetooth (HC-05)	<ol style="list-style-type: none"> Introduction to MIT Application Inventor Learn to make code using build-in-block in MIT Application Inventor Integration of Arduino UNO board with Bluetooth module (HC-05) Transmit/receive data from MIT application to Arduino UNO board 	1 day
Module 3: IoT with Arduino UNO + NodeMCU ESP8266 using Blynk Application and Thingspeak.com	<ol style="list-style-type: none"> Introduction to NodeMCU ESP8266 board Integration circuit of Arduino UNO and NodeMCU ESP8266 board Transmit/receive data from Arduino UNO to NodeMCU ESP8266 via serial communication Introduction to Blynk Application Visualize sensor data and control electronics system remotely using Blynk application <ul style="list-style-type: none"> Control LED blinking wirelessly Display/plot graph of sensor data Send sensors data to email <ol style="list-style-type: none"> Introduction to Thingspeak.com Analyse live data stream in the cloud from Arduino UNO on Thingspeak.com via NodeMCU ESP8266 	1 day
Module 4: Real-Time Data Transfer with MQTT and IFTTT Protocol	<ol style="list-style-type: none"> Introduction of IFTTT and MQTT protocol in wireless communication <ul style="list-style-type: none"> On/Off AC lamp via MQTT Client Implementation of IFTTT and Adafruit MQTT broker using voice command on phone: <ul style="list-style-type: none"> On/Off AC lamp via Google Assistant 	1 day
Module 5: Build Your Own IoT Projects	<ol style="list-style-type: none"> Build variety of IoT projects related to: <ul style="list-style-type: none"> Agriculture Vehicle Home Security System Street Light 	½ day