

Basic Robotics & Embedded System with Arduino



Highlights:

- ★ Digital Certification by Makxenia & RISciTech
- ★ 16 Demonstration during course
- ★ Access to study material and codes
- ★ No Prerequisites
- ★ Learn from the best in industry
- ★ Interesting assignments
- ★ Application based Hands-on Session
- ★ Instant Doubts solving
- ★ Perfect blend of Hands-on Sessions with knowledge based theory

Demonstrations

- Black Line Follower Robot
- White Line Follower Robot
- Clap Sound Operated Robot
- Wall Follower Robot
- Edge Avoider Robot
- Obstacle Avoider Robot
- Keyboard Controlled Robot
- 7 Segment Display Single Digit
- 7 Segment Display Multiplexed
- Moving Message on LCD display
- Blinking Message on LCD display
- Keyboard Controlled LEDs
- Serial monitor
- DC Motor Control with Differential Drive
- Switch to LED
- Running LEDs
- LED blink
- LED glow

Kit Content:

- 1x Arduino Uno
- 1x USB Cable
- 1x Robot Chassis
- 2x BO Motors
- 2x BO Wheels
- 1x Castor Wheel
- 1x L293d Motor Driver
- 2x IR Sensor
- 1x TSOP Sensor
- 1x Sound Sensor
- 1x 2 digit 7 Segment Module
- 1x 16x2 LCD Display
- 1x LCD Breakout Board
- 1x Breadboard
- 4x LEDs
- 4x 1k Resistor
- 2x Push Button
- 2x 10k Resistors
- 10x Male to Male Jumper
- 10x Male to Female Jumper
- 1x Screwdriver
- 1x Nut Bolt Pack
- 1x Spacer Pack
- 1x Adapter 9v 1Amp

Course Content

Day 1: Introduction to Robotics and Its Applications.

Day 2: Introduction to embedded system and its components, Introduction to microcontroller & microprocessor, Its History and Atmega328.

Day 3: Atmega328 Datasheet. Introduction to C, Arduino vs Atmel Studio

Day 4: Introduction to arduino, software installation, and first demo: LED blink,

Day 5: LED glow, LED Run with multiple Algorithms, Switch to LED.

Day 6:, Switch to serial, Serial commands, Keyboard control LEDs,

Day 7:, Switch to serial, Serial plotter, Serial commands, Keyboard control LEDs,

Day 8: Introduction to Motors, Motor Driver, Differential Drive, Motor Control with code

Day 9: Keyboard Controlled Robot, Introduction to IR sensors. White Line Follower Robot.

Day 10: Black Line Follower Robot. Edge Avoiding Algorithm. Edge Avoider Robot.

Day 11: Introduction to TSOP Sensor, Obstacle Avoider Robot. Wall Follower Robot

Day 12: Introduction to Sound Sensor, Clap Control LEDs, Clap Control Robot

Day 13: LCD display, LCD blink, Moving Message on LCD display, Blinking Message on LCD display

Day 14: Introduction 7 Segment Display, Single Digit Counter, 7 Segment Multiplexing, 2 digit counter.

Day 15: Future Scope, How to learn more.

Fee:

INR 4999/- (With Kit)

Group Discounts

500/- per head when registered in a group of 5 or more

200/- per head when registered in a group of 3 or more

Duration

15 Days (45 Hours)

Certification

Certificate of Completion by "Makxenia Engineering Resource Pvt Ltd." and "Research Institute of Science and Technology"