25 Hour Course - Option 3

Course code: RSLOL25A01
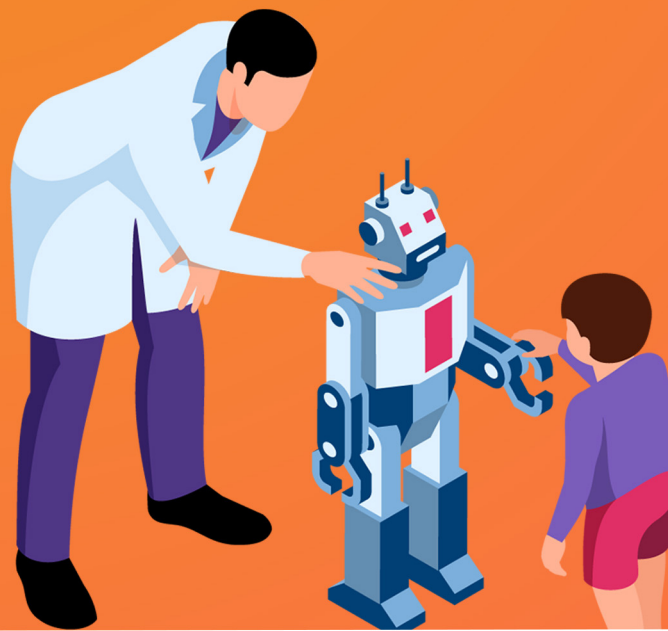
ADVANCED ROBOTRONICS WITH ARDUINO, EMBEDED C, 3D DESIGNING AND 3D PRINTING
(ACHIEVER - GOOD FOR GRADE 6-9)

INTERACTIVE LIVE COURSE SERIES

RoboSmart Labs
REDEFINING ROBOTICS EDUCATION

ADVANCED ROBOTRONICS WITH ARDUINO, EMBEDED C, 3D DESIGNING AND 3D PRINTING
(ACHIEVER - GOOD FOR GRADE 6-9)
Course code: RSLOL25A01
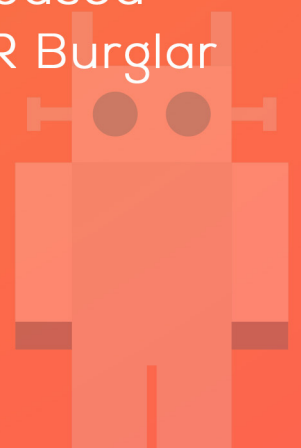
ADVANCE ROBOTRONICS

Learning Outcome

Basic circuit connections: Controlling LEDs and DC motors, Understand the switches, pushbuttons, and battery connections, Control multiple motors with Arduino using scratch programming, Connect the IR sensor and photo-resistor to make an obstacle avoider Robot, Use the Ultrasonic sensor to make a robot and home security system, Use servo motors to make robotics Arms, Simple project discussion using the integration of multiple sensors, Learning about motors & Learning about sensors
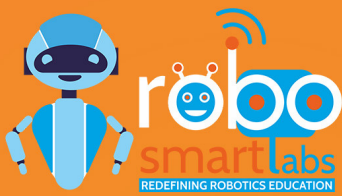
Projects

Complex LED blinking, Multiple LED interfacing with switch, 4wd robot motor connection, Robot with obstacle detection, Sensor concepts with, Alarm system LDR sensors, Object detection PIR sensors, LDR based Outdoor lighting system, IR sensor based PIR Burglar Alarm

CLICK HERE FOR COURSE REGISTRATION

RoboSmart Labs
REDEFINING ROBOTICS EDUCATION

ADVANCED ROBOTRONICS WITH ARDUINO, EMBEDED C, 3D DESIGNING AND 3D PRINTING
(ACHIEVER - GOOD FOR GRADE 6-9)
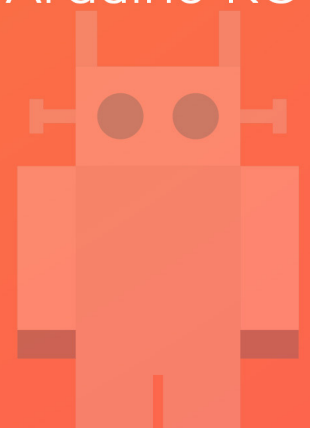Course code: RSLOL25A01

EMBEDDED-C ARDUINO
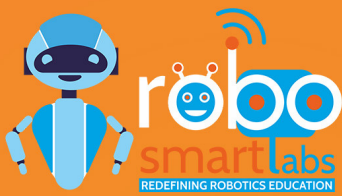
Learning Outcome

Introduction to programming, Embedded c program, Components of a program, Introduction to Arduino, I/O port, analog pins, digital pins, Parts of Arduino, Circuit making with Arduino, Connect an Arduino and Breadboard, Coding LEDs and DC motors, Coding switches, pushbuttons, and power supply, Coding multiple motors with Arduino, Coding of Arduino for IR sensor and photo-resistor, Coding Ultrasonic sensor, Coding servo motors

Projects

Tiny piano mini breadboard, Automatic room temperature controller, Obstacle avoider robot, Make Robotics Arms, Home security system, IR remote toggles 10 leds, Soft servo sweep, Movement servo, Arduino RC Robot, Arduino ultrasonic distance sensor

CLICK HERE FOR COURSE REGISTRATION

ADVANCED ROBOTRONICS WITH ARDUINO, EMBEDED C, 3D DESIGNING AND 3D PRINTING
(ACHIEVER - GOOD FOR GRADE 6-9)
Course code: RSLOL25A01

3D PRINTING AND DESIGNING

Learning Outcome

What is 3D printing?, History of 3D printing, Discovery of Stereolithography, The RepRap Project, The use of 3D printing, 3D PRINTING TECHNOLOGIES, FFF 3D printers components, SLA – stereolithography, Choosing a 3D printer, Choosing the right printing material, Slicing software, Preparing the print surface – start print and Post-processing, Filaments selection, Supports, Multi-colour 3D printing

Projects

Getting a 3D model, Online libraries and 3D hubs, 3D modelling software, Modelling 20 different shapes in Tinkercad, Various tools using in tinker cad, Introduction to Autodesk Fusion 360, Project transferring to Slicing software, Project file exporting to printer, 3d printing – Gluing and smoothing models using acetone

CLICK HERE FOR COURSE REGISTRATION