

RoboSmart Labs

REDEFINING ROBOTICS EDUCATION

25 Hour Course - Option 1

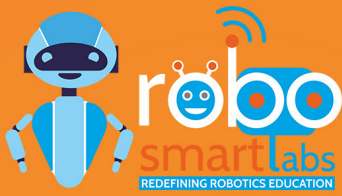
Course code: RSL0L25B01



ROBOTRONICS WITH MICRO-CONTROLLER AND VIRTUAL ROBOTICS (BEGINNER - GOOD FOR 3-5 GRADES)



INTERACTIVE **LIVE** COURSE SERIES



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ROBOTRONICS

Learning Outcome

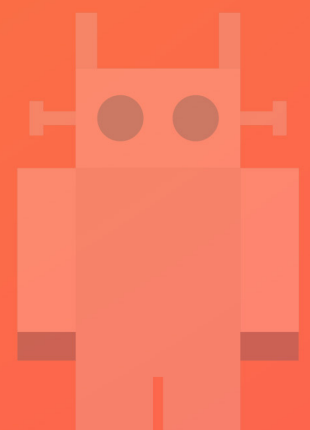
Introduction to Robotics, what is robot ?, Classification of Robot, Robots in Real life, Basics of Electronics & Terminologies, Parts of Robots, What is power supply Voltage, Current, Resistance, what is a Circuit, Types of circuits, Types of power supply and batteries, AC and DC, Safety in Electronics, Basic Electronics Circuit, Led connection, Interfacing a switch, controlling brightness of an LED, Buzzer connection

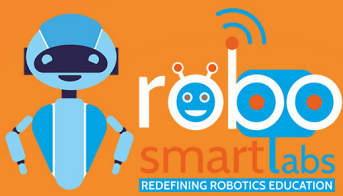
Projects

Normal Led connection, Series connection, Parallel connection, Make or break a circuit, Push button switch, Momentary or reset switch, Potentiometer, Led brightness control, Normal buzzer connection, Interfacing buzzer with switch, DC MOTOR for FAN, Two wheeled Robot

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MICRO BIT

Learning Outcome

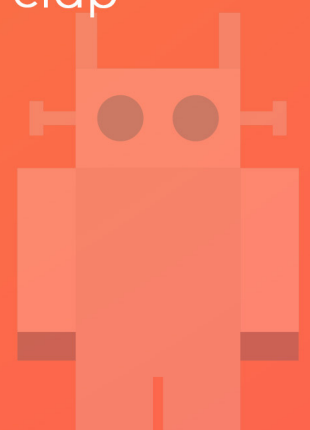
Micro bit in tinker cad - scratch coding, Microcontroller programming, Introducing to Microcontroller, Brain of ROBOTS, Input output pins, Various sensors, Switches, buttons, LED lighting, LED Display programming, Vibration sensor and shake detection, Temperature sensor, Buzzer & alarm, Sound sensor

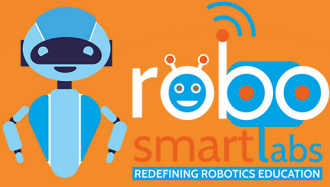
Projects

compass , sound compass, Night light, Indoor-outdoor thermometer, Jukebox with volume, Simple door alarm, Touch timer, Touch stopwatch, LED heart, Beating heart, Animated animals, Name BADGE, Normal dice, Graphical dice, Rock/Saper/Scissor game, Temperature, Shake, Alarm, Sound sensor & Sound meter, Sound clap hearts, Disco light sound and Led

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VR ROBOTICS

Learning Outcome

Understanding Virtual Robots, Block Shapes and Their Meaning in VR blocks coding, Explore the movement controls of the VR Robot, Program the VR Robot to move forward and reverse to various distances, Driving for Distance - Moving Forward and in Reverse, Change Parameters in the [Drive for] Block, Turning the VR Robot, Turn to Heading, Using Drivetrain Commands to Navigate the Wall Maze, Drawing with the Pen, Decisions with Colours - Eye Sensor, Using Conditionals [If then] blocks, What is a Bumper Sensor?, Developing Algorithms, If/Else Conditional Statements, Using Multiple Sensors Together

Projects

Draw a House Challenge, Distance Drive, Basketball Drills, Find Your Age, Number Maze, Letter Maze, Draw a House, Maximize Perimeter, Robot Dance Party, Disk Mover, Tracing Triangles Polygons Unique Shapes Draw a Triangle with Gyro, Robot Vacuum, Disk Colour Maze, Castle Crasher Challenge, Wall Maze Challenge

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