Platforuma
Let's Learn, Inovate & Inspire

School of Robotics

Robotics Arduino

Training + Internship Brochure

What is Robotics?

Robotics is the **interdisciplinary sector** of science, engineering and technology that produces machines, called **robots**, that substitute for (or replicate) human actions. The aim of the **robot** is to manipulate the objects by perceiving, moving, picking, modifying the physical properties of object.

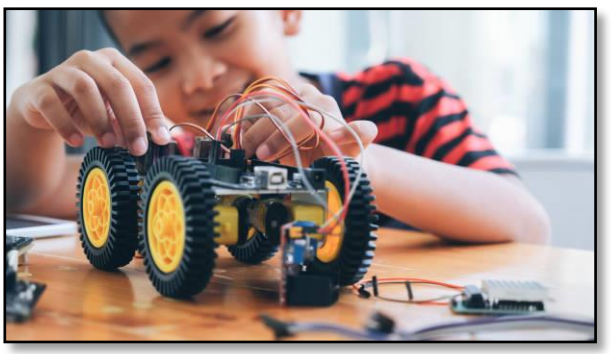
What we tend to achieve:

To introduce the students to an embedded world with the help of **Micro-controller boards, multiple sensors** and**, Arduino** (Embedded C Programming).

All Modules are Class Room Activity, which the student will cover during the regular timings. If they wish to learn more. They will also get free '**Open Development Lab Access**' for free of cost.

Who is this Course For?

Anyone who is interested in learning about the Internet of Things from **LEVEL ZERO** can join the program. Everything is started from scratch, and all the hardware components are provided at Platforuma's Lab.



Break-down for each Session:

- **Theory Sessions:** 20-25 minutes
- **Practical Session:** 40-45 minutes

Program Features:

- Learn conveniently in both **Online** & **Offline** Mode.
- Get guidance on your learning journey with weekly personalised **mentorship** from industry experts.
- Build practical skills with projects and assignments.
- Step ahead in your career with **Career Assistance Services**.
- **One Development Kit per Student** (No-Sharing of kits allowed)
- No kit purchase burden on Student.

What this program helps you to achieve:

- Learn cutting edge technologies from the best in Indore faculty and Industry experts.
- Lead and contribute to digital transformation projects in the areas of **Embedded C, Embedded Systems** and **Robotics** at your workplace & Home.
- Acquire **in-demand skills** and build your candidature for high growth roles and leading technology companies.
- Crack **technical interview rounds** easily during placement & internships.

ARDUINO

Content Description:

Elements	Beginners	Intermediate	Professional
Duration	4 Weeks	8 Weeks	12 Weeks
Introduction	What is Robotics?		
	What is Embedded Systems?		
	What is Arduino		
	Application & Scope		
Starting with Arduino	Knowing Arduino Boards		
	GPIOs and Pinouts		
	Application of Arduino		
Embedded C	Introduction to language		
	Basic Syntax and Keywords		
	Loops & Functions		
	Conditional Statements		
Working with Digital Sensors	LED	LED	LED
	Buzzer	Buzzer	Buzzer
	Push Buttons	Push Buttons	Push Buttons
	Infrared Sensors	Infrared Sensors	Infrared Sensors
	Distance Sensor	Distance Sensor	Distance Sensor
	-	DPDT Switch	DPDT Switch
	-	-	Keypad Matrix
	-	-	Accelerometer
	-	-	Gyroscope
	-	-	Hall effect Sensor
	-	-	RTC Module
Communication Protocols	Serial UART	Serial UART	Serial UART
	-	I2C	I2C
Working with Interrupt	-	-	YES
Working with Analog Sensors	Photo sensor	Photo sensor	Photo sensor
	Potentiometer	Potentiometer	Potentiometer
	DHT-11	DHT-11	DHT-11
	Motor Drivers	Motor Drivers	Motor Drivers
Working with Wireless Sensors	-	Bluetooth	Bluetooth
	-	RF Modules	RF Modules
	-	-	GPS Module
	-	-	GSM Module
Working with Displays	LCD 16*2	LCD 16*2	LCD 16*2
	-	7 Segment Display	7 Segment Display
	-	LED Matrix	LED Matrix
	-	-	OLED Display
	-	-	TFT Touch Display
Working with Motors	DC Motor	DC Motor	DC Motor
	Servo Motor	Servo Motor	Servo Motor

	-	Stepper Motor	Stepper Motor
Wheeled Bot Sessions	Line Follower Bot	Line Follower Bot	Line Follower Bot
	Edge Avoider Bot	Edge Avoider Bot	Edge Avoider Bot
	Obstacle Detection Bot	Obstacle Detection Bot	Obstacle Detection Bot
	Laptop Controlled Bot	Laptop Controlled Bot	Laptop Controlled Bot
	-	Remote Controlled Bot	Remote Controlled Bot
	-	Mobile Controlled Bot	Mobile Controlled Bot
	-	-	Voice Controlled Bot
	-	-	Call Controlled Bot
Minor Projects	9+ Minor Projects	16+ Minor Projects	22+ Minor Projects
Major Projects	6+ Major Projects	12+ Major Projects	18+ Major Projects

Capstone Projects:

These projects will be covered during the session of **'Hands-on sessions on Sensors'**. After learning to interface each sensor, projects related to it will be assigned to every individual in a number of steps to complete the project. Full Assistance and Guidance to complete the project will be provided by the faculty in the classroom.

S.No.	**Beginners**	**Intermediate**	**Professional**
1	Traffic light system	Traffic light system	Traffic light system
2	Automatic street light system	Automatic street light system	Automatic street light system
3	Smart temp alert	Smart temp alert	Smart temp alert
4	Automatic fan speed controller	Automatic fan speed controller	Automatic fan speed controller
5	Melody tone	Melody tone	Melody tone
6	Police siren	Police siren	Police siren
7	Controlling the led using button	Controlling the led using button	Controlling the led using button
8	Parking alert system	Parking alert system	Parking alert system
9	Radar system	Radar system	Radar system
10	Car parking slot monitoring	Car parking slot monitoring	Car parking slot monitoring
11	Basic calculator (+, -, x, /)	Basic calculator (+, -, x, /)	Basic calculator (+, -, x, /)
12	Distance meter	Distance meter	Distance meter
13	Smart dustbin	Smart dustbin	Smart dustbin
14	-	Led matrix 4×4	Led matrix 4×4
15	-	Phototropic robot	Phototropic robot
16	-	Vending machine	Vending machine
17	-	Reverse and forward direction using DPDT Switch	Reverse and forward direction using DPDT Switch
18	-	Human counter	Human counter
19	-	Smart light with a human counter	Smart light with a human counter
20	-	Scrolling "LEARN INNOVATE INSPIRE" in an LCD display	Scrolling "LEARN INNOVATE INSPIRE" in an LCD display

21	-	Door security system with the password	Door security system with the password
22	-	Automatic A.C. ON/OFF System	Automatic A.C. ON/OFF System
23	-	Digital watch using 7 segments	Digital watch using 7 segments
24	-	Counter using a 7-segment display	Counter using a 7-segment display
25	-	Garage lock system using the keypad	Garage lock system using the keypad
26	-	BT controlled home automation	BT controlled home automation
27	-	BT voice home automation	BT voice home automation
28	-	RF control of DC motor (forward and reverse direction)	RF control of DC motor (forward and reverse direction)
29	-	Led ON/OFF using an RF module	Led ON/OFF using an RF module
30	-	BT controlled the servo motor	BT controlled the servo motor
31	-	Humidity controlled fan	Solar panel cleaner
32	-	-	Humidity controlled fan
33	-	-	Temp and humidity alert system using display
34	-	-	RF controlled gate open/close
35	-	-	GSM Motor Controller
36	-	-	Call based Alert System
37	-	-	Theft Alert System
38	-	-	E-bike Displays
39	-	-	Solar panel cleaner

Platforuma Advantages:

- **E-PORTFOLIO**
  An e-portfolio is a snapshot of all the projects done and skills acquired during the program that is shareable across social media channels. This will help you showcase your expertise to potential recruiters.
- **RESUME BUILDING AND INTERVIEW PREPARATION**
  We help you build your resume to highlight your skills and your previous professional experience. You'll also learn to crack interviews with our interview preparation sessions.
- **PLATFORUMA HIRING BOARD**
  The program provides candidate’s access to the Platforuma Hiring Board. Organizations approach us with job/internship opportunities that are shared through the Hiring Board with our candidates. We’ve seen over 20+ alumni transitions to the careers of their choice..
- **CAREER GUIDANCE**
  Get access to career mentoring from industry experts who’ve transitioned to roles in the industry. Benefit from their guidance on how to build a rewarding career.

Program Fee:

Elements	Beginners	Intermediate	Professional
Fee	₹ 6000/-	₹ 10,000/-	₹ 18,000/-

18% GST Applicable
****Co-ordinate with us for discounts and offers***

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