

Title: Arduino Project and Robotics

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Course fee	8000 BDT
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Class #	Course title	Lecture details
01	Course overview	<ul style="list-style-type: none"> ○ What does it mean Industrial attachment? ○ What is Automaton? ○ What is Arduino? ○ What is Sensor? ○ What is Robotics?
02	Basic C Programming	<ul style="list-style-type: none"> ○ Data type ○ Variable, Keywords ○ Operator and Expressions. ○ Conditional and looping statements ○ Switch, Case. ○ Function
03	Introducing Arduino IDE and LED blinking Program	<ul style="list-style-type: none"> ○ What is Arduino IDE. ○ How to use Arduino IDE ○ IDE Settings ○ PC to Arduino Communication ○ Basic circuit diagram design with Proteus ○ LED blinking Program
04	LED Display Design	<ul style="list-style-type: none"> ○ What is LED display ○ Schematic design, with help of Proteus ○ LED display programming with help of Arduino IDE ○ Circuit Connection ○ Practical project
05	LCD Display and ADC Operation	<ul style="list-style-type: none"> ○ What is LCD? ○ What is ADC? ○ Pin configuration of LCD. ○ LCD Connection and Programming. ○ Design and Application Digital Voltmeter with help of the ADC and LCD display.
06	Servo motor and Conventional DC motor Operation and Control.	<ul style="list-style-type: none"> ○ What is Servo Motor? ○ What is PWM? ○ Describe DC motor Controller. ○ Connection, Operation and Control Servo motor and DC conventional DC motor.

07	Introducing and Application Different types of Sensor.	<ul style="list-style-type: none"> ○ Light sensor. ○ IR sensor. ○ Temperature sensor. ○ Proximate sensor. ○ Ultrasonic sensor. ○ Water sensor ○ Weight sensor. ○ Air quality sensor. ○ Smoke sensor ○ Color detect sensor
08	Auxiliary instrument connection with Arduino for medium and large load control	<ul style="list-style-type: none"> ○ Relay Circuit ○ Optocoupler ○ Solid State Relay (SSR) ○ Magnetic contactor ○ MCB
09	Introducing and Application Different types of Industrial Sensor	<ul style="list-style-type: none"> ○ Proximity sensor ○ Level sensor ○ RTD Vs Thermocouple ○ PIR sensor Vs Photocell
10	Temperature and Sun Light Depend Home appliance Control (Project)	<ul style="list-style-type: none"> ○ Overview this Project. ○ Hardware assembly. ○ Electrically Connection. ○ Programming and Run.
11	Water Level control (Project)	<ul style="list-style-type: none"> ○ Overview this Project. ○ Hardware assembly. ○ Electrically Connection. ○ Programming and Run.
12	Line Follower Robot (Project)	<ul style="list-style-type: none"> ○ Overview this Project. ○ Hardware assembly. ○ Electrically Connection. ○ Programming and Run.