

# Programming with Arduino

## About NIELIT

NIELIT is an autonomous Scientific Society under the administrative control of Ministry of Electronics & Information Technology (MeitY), Government of India. NIELIT Chandigarh was established in 1978 to provide professional services in the areas of Information, Electronics & Communication Technology (IECT). NIELIT Chandigarh is engaged in development of industry oriented quality education and training programmes in the state-of-the-art areas.

## About Course

The course aims to equip the students with tools for programming interactive applications using input from the physical world. Goal is to learn basic programming skills that are needed for Smart Technology and New Media, for screen-based applications embedded applications.

## Course Objective

The learner will learn how the Arduino platform works in terms of the physical board & libraries and the IDE. Further, the learner will learn about shields, which are smaller boards that plug into the main Arduino board to perform other functions such as sensing light, heat.

## Brief Contents

### ❖ Introduction to Arduino

- Basic Electronics
- Arduino IDE & Driver Installation
- Hands on with breadboard, multimeter, resistance, transistor, etc
- Basic Programming Structure
- Working with Digital Outputs- Interfacing LED s with Arduino

### ❖ Understanding of Arduino Board

- Introduction to Digital Inputs- Interfacing push Button
- Working with Analog inputs – interfacing Potentiometer
- Interfacing ULN 2003, Buzzer with Arduino
- Introduction to PWM and demonstrating LED Fading

### ❖ Sensor Interfacing

- Working with Serial Communication
- Working with Analog inputs -Interfacing LDR, LM35 with Arduino
- Interfacing LCD with Arduino

### ❖ Applications with Arduino

- Interfacing HC-05 transceiver with Arduino.
- Interfacing Ultrasonic and gas based sensors
- Understanding and using EEPROM

### ❖ Project

## Eligibility

Knowledge of computers

## Fee

Rs. 2100+ GST

## Duration

4 Weeks

For further details, Contact:

### Facility at Chandigarh

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