NIELIT Chandigarh

ROBOTICS PROGRAMMING WITH ARDUINO
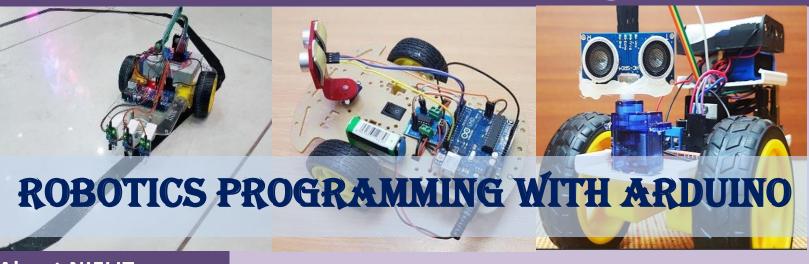
About NIELIT

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 will bring the concept of robotics interfacing using Arduino. The course includes the Arduino basics, C programming with Arduino, interfacing digital and analog pins, motor driver, ultrasonic and IR interfacing with Arduino.

Course Objective

The learner will learn basics of robotics interfacing with Arduino, and will able to make basic bots e.g. line follower, obstacle detection, etc. Further, the learner will learn the simulation on OrCAD and Proteus VSM in designing PCB & circuits

Brief Contents

- ❖ **Basics of Electronics Prototyping**
  - o Basics of Electronics, components, tools
  - o Introduction to Microcontroller
  - o Circuit Simulation using Proteus VSM
- ❖ **Basics of Arduino Programming**
  - o Arduino IDE & Driver Installation,
  - o C Programming with Arduino
  - o Understanding digital and analog Input-Output
  - o PWM-LED fading ,controlling speed of Motors

- ❖ **Robotics interfacing with Arduino**
  - o Types of motor, characteristics
  - o L293D Motor driver interfacing
  - o Controlling motor with Arduino
  - o Ultrasonic and IR sensor interfacing
  - o Serial communication - Bluetooth
  - o Use of OrCAD in designing of Power Supply
- ❖ **Project**
  - o Line Follower
  - o Obstacle detection bot
  - o Bluetooth controlled bot

Eligibility Knowledge of Computers   **Fee** Rs.1000/- + GST   **Duration** 2 Weeks

For further details, Contact:

Facility at Chandigarh
IETE Building, Sector 30-B, Chandigarh 160030
Phone: 0172-2650121, Mobile: 8988377112
Email: training.chd@nielit.gov.in
Admission link: http://59.91.196.62/trgcandregn/studAdmission

Permanent Campus
Bada Phull, Birla Farms, Ropar-140001
Phone: 01881-257005 Mobile:7009304181,7087235355
Visit: www.nielit.gov.in/chandigarh