NEVON SOLUTIONS

Certified Electronics Course | Embedded Design & Development

Course ID: CREL249

Course Syllabus

Total Duration: 30 hours

Basic Electronics (2 Hours)

1. Understanding Transformers & Power Supply
2. Understanding Diodes & Rectifiers
3. Resistor Color Codes & Capacitors
4. Transistors – BJT | MOSFET | TRIAC
5. Understanding Regulators
6. OHMs Law and Power Calculations
7. Potential Dividers, IR, LDR & Temperature Sensors
8. Q & A | Doubt Solving

PCB Designing (2 Hours)

1. Understanding Schematics
2. Understanding Circuit Diagrams
3. Selection of Components
4. Making New Components
5. Labeling Components
6. Q & A | Doubt Solving

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PCB Layout (4 Hours)

1. Basic Rules of PCB Layout
2. Current Calculation for Tracks
3. Making Custom Component Layout
4. Integrating Custom Symbol and PCB
5. Single Layer PCB Design
6. 2 Layer PCB Design
7. BOM Generation
8. Exporting Production Files
9. Simulation of Basic Components – Opamp Based & 555 Based
10. Q & A | Doubt Solving

Basics of C Programming (6 Hours)

1. Types of Variables & Datatypes
2. OOP's Concepts
3. Loops – While | IF | IF ELSE
4. Functions
5. Scope of Variables & Functions
6. Passing Values Reference
7. Union Structures
8. Interrupts – Software & Hardware
9. Interview Programs – Fibonacci | Star Series | Array Problems
10. Q & A | Doubt Solving

Microcontrollers & Programmers (6 Hours)

1. Understanding 8051 Microcontroller
2. 8051 Pins and Ports
3. 8051 Programming
4. Understanding Arduino Uno
5. Arduino Uno Pins & Ports
6. Arduino Interfacing with
   - LED – Blinking
   - LCD Display
   - Keypad
   - 2 Analog Sensors
   - 2 Digital Sensors
   - Relay
   - 7 Segment Display
   - Buttons & Switches
7. Q & A | Doubt Solving

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Robotics (4 Hours)

1. Introduction to Robotics
2. DC Motor interfacing with Arduino
3. Motor Drivers
4. Ultrasonic Sensor Interfacing with Arduino
5. IR Sensor Interfacing With Arduino
6. Q & A | Doubt Solving

Project Development (4 Hours)

1. Step by Step Project Development
2. Students develop a live project as per instructions
3. Online Troubleshooting Help Provided

Online Exam (2 Hours)

1. Students need to pass the online test to complete the course
2. If student fails, he/she can attempt the test 2 more times – Total 3 Attempts Only
3. Certification is provided to students passing the exam

Course Registration Link:

https://nevonprojects.com/certified-electronics-course-embedded-development/

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