

Embedded Systems Course (Online)

Build Industry-Ready Skills in Embedded & Microcontroller Systems

A comprehensive, job-oriented online program designed to provide strong fundamentals and practical expertise in Embedded Systems, C Programming, and Microcontrollers. Ideal for students and professionals aiming to enter the embedded and IoT domain.

✓ Duration	18 Weeks
✓ Level	Beginner to Intermediate
✓ Mode	Online Only
✓ Focus	Hands-on + Industry Concepts

Eligibility

- Diploma Students
- BE / B.Tech Students
- ME / M.Tech Students
- BSc / MSc in Electronics

Module 1: Basic Electronics (4 Weeks)

- Electrical fundamentals and resistor networks
- AC circuit analysis and applications
- Semiconductor basics and diode circuits
- Bipolar Junction Transistors (BJT)
- Field Effect Transistors (FET)
- Operational amplifiers and applications
- Oscillators and signal generation
- Digital circuits and logic devices

Module 2: C Programming (4 Weeks)

- Introduction to C programming
- Data types, operators, and expressions
- Control flow statements
- Functions and program structure
- Arrays and pointers
- Structures and user-defined data types
- Standard input and output operations

Module 3: Embedded C Programming (4 Weeks)

- Embedded programming fundamentals
- Structure of an Embedded C program
- Memory handling and optimization

- Embedded data types and operators
- Control structures for hardware control
- Functions and modular programming
- Complex data types in embedded systems

Module 4: Microcontrollers (6 Weeks)

- Microcontroller architecture and internal blocks
- PIC microcontrollers overview (PIC16F, PIC18F)
- Memory organization and addressing modes
- Interrupt handling and priority management
- Peripheral interfacing
- Power management (Brown-out, Idle modes)
- Digital I/O ports and serial communication
- Analog-to-Digital Conversion (ADC)
- Clock monitoring and special features
- Hands-on mini project

Career Outcomes

- Develop real-time embedded applications
- Program microcontrollers using Embedded C
- Interface sensors and peripherals
- Design and debug embedded projects
- Build confidence for interviews and industry projects

Contact & Enrollment

Institute Name: Embedded Electronics

Website: <https://embedded-electronics.github.io/>

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**Start your journey into Embedded Systems today.
Learn online. Build real projects. Become industry-ready.**