Course: Embedded Systems

Duration: 60 Hrs (Changeable) | Fees: Individual / Batch

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- Artificial Intelligence
- Machine Learning
- Data Science
- Software Testing (All)
- Wordpress, Woocommerce
- Digital Marketing, SEO
- Php/MySQL, Laravel
- Flutter, Android, IOS
- Asp.net MVC
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- Angular JS, React JS
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- Ethical Hacking

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Syllabus on the Next Page ..

Embedded Systems Course Syllabus (60 Hours)

Level

✳ : Beginner to Intermediate

Mode:

✳ Live Online / Offline

Certification

✳ : Yes

Placement Assistance: Included

Module 1: Introduction to Embedded Systems (3 Hours)

✳ What are Embedded Systems?

✳ Applications in daily life and industry

✳ Architecture of Embedded Systems

✳ Embedded vs General Purpose Systems

Module 2: Embedded C Programming (10 Hours)

✳ Basics of C language for microcontroller programming

✳ Data types, operators, loops, and functions

✳ Bitwise operations and memory management

✳ Writing and compiling code for embedded hardware

Module 3: Microcontrollers and; Architecture (8 Hours)

✳ 8051, AVR, PIC, and ARM basics

✳ Memory and I/O ports

✳ GPIO and register-level programming

✳ Clock, Reset, and Timers

Training by Industry Experts

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Module 4: Arduino Programming and Applications (6 Hours)

* Introduction to Arduino environment

* Programming digital and analog pins

* Sensor integration (temperature, light, motion)

* LED, Buzzer, Relay, and LCD interfacing

Module 5: Interfacing and Communication Protocols (8 Hours)

* ADC and; DAC concepts

* Serial Communication: UART, I2C, SPI

* Interfacing with external peripherals

* Interrupts and timers

  Module 6: Real-Time Operating Systems (RTOS) â€" Basics (4 Hours)

* RTOS vs Bare-metal programming

* Tasks, Semaphores, Queues

* Basic implementation using FreeRTOS

  Module 7: Simulation, Debugging and; Tools (5 Hours)

* Using Proteus, Keil ÂµVision, Arduino IDE

* Debugging techniques

* Logic analyzer basics

* Use of multimeter and oscilloscope (intro level)

  Module 8: Introduction to IoT with Embedded Systems (4 Hours)

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✳ What is IoT and; how embedded systems fit in

Wi-Fi module integration (e.g., ESP8266)

✳ Sending data to cloud platforms

✳ Mini IoT project demo

Module 9: Capstone Project (10 Hours)

✳ Select a project

✳ (Home automation / Security system / Sensor logger)

✳ Build, program, test and; demonstrate

✳ Document the project for certification

✳ Instructor review and feedback

Tools and; Kits Used

✳ Arduino Uno / NodeMCU / PIC/STM32 (as per batch)

✳ Proteus / MPLAB / Arduino IDE / Keil ÂµVision

✳ Sensors, Relays, LCDs, Buzzer, etc.

(Click on Course for more details)

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- Thank You -

N.B:This syllabus is not final and can be customized as per requirements / updates.