ABOUT COURSE

Embedded System
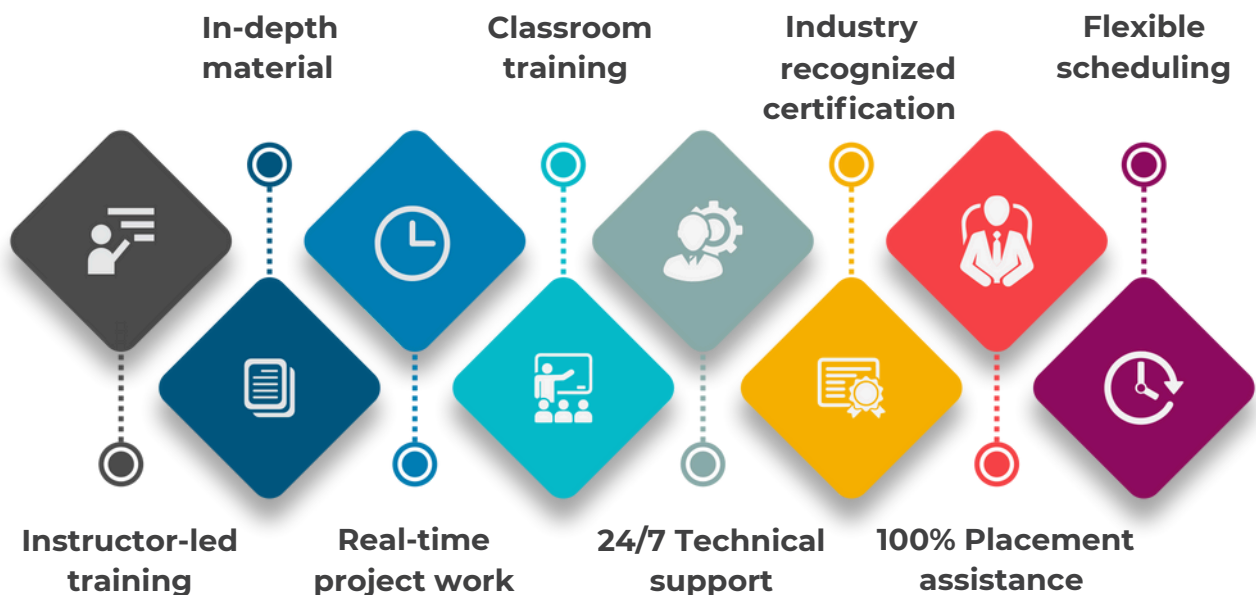
Wishing to become a Professional Embedded Systems Engineer?Whether you're in Bangalore or prefer online learning, our Embedded Systems Program is designed just for you!Build a strong and rewarding career in Embedded Systems with the skills to design, develop, and deploy intelligent hardware-software solutions for IoT devices, automotive systems, robotics, and smart electronics.

DURATION
120 DAYS

CLASS SIZE
MAX 15
IN ONE BATCH

PROGRAM FEATURES

In-depth material

Classroom training

Industry recognized certification

Flexible scheduling

Instructor-led training

Real-time project work

24/7 Technical support

100% Placement assistance

WHO CAN DO
Embedded System COURSE

Anyone interested in building web applications – whether a fresher, IT professional, or career switcher – can do this course (online or offline).

Freshers/ Graduates/Students

Job Seekers

Working Professionals

OUR LEARNERS WORK AT

accenture

wipro

cognizant

amazon

Flipkart

GLOBUSSOFT
TECHNOLOGY AHEAD OF TIME

WEBENZA
WORLD WITHOUT BOUNDARIES

nextwebi

GeekyAnts

And
many more...

COURSE CONTENT
Embedded System

MODULE : 01

Introduction to C Programming

- Keywords, operators, and expressions
- Data types and variable management
- Functions and general C program structure
- Standard input/output handling
- Variable classification and storage classes
- Memory organization in C
- Control structures and loops
- Pre-processor directives, bit-wise operations

MODULE : 02

User-Defined Types & Memory

- User-defined types:
  - Arrays
  - Strings
  - Structures
  - Unions
- Structure bit fields and data pointers
- Function pointers and dynamic memory allocation
- Compilation stages in C programming
- File input/output operations

MODULE : 03

Embedded Hardware Basics

- Electronic components: active and passive
- Analog signal conditioning and circuits
- Digital circuits overview
- Power supply concepts (AC/DC)
- Semiconductor applications
- Sensor interfacing techniques
- Handling laboratory equipment (DSO, FG)

MODULE : 04

8051 / AVR / Arduino Architectures

- Architecture fundamentals and memory organization
- Register banks and special function registers
- On-chip peripherals and pin description
- Internal peripheral modules (ADC, timers, UART, PWM, etc.)
- Digital input/output (DIO), analog to digital converter (ADC)
- Timer/counters and interrupts
- Power management strategies

MODULE : 05

External Interfaces & Peripheral Modules

- LED interfacing
- LCD interfacing
- Discrete switches
- Matrix keyboards
- External wakeup interrupt sources
- Buzzer and PC communication
- Electric drive interfacing

MODULE : 06

Software Development Tools

- Types of Integrated Development Environments (IDE)
- Concept of Keil Vision, ATMEL Studio, Arduino environment
- Compiler tool chain introduction
- Software development and flashing techniques
- Testing and debugging practices

MODULE : 07

InARM Architecture

- Advanced ARM processor concepts
- Ultra low power and high-performance 32-bit CPU
- 3-stage pipeline and Harvard architecture
- NVIC, STT System tick timer, debug interfaces
- Peripheral sets and memory organization
- General-purpose GPIO, ADC, DAC, timers, PWM
- RTC, watchdog timer, DMA channels
- Serial protocols: UART, I2C, SPI

MODULE : 08

Real Time Operating System (RTOS)

- Introduction to real-time kernel
- Real-time task scheduling (round robin, priority, pre-emptive)
- Task states and management
- Kernel services and inter-task communication (ITC)
- Synchronization with MUTEX, semaphores
- Interrupt handling and task control blocks

MODULE:09

Linux for Embedded Systems

- Overview and introduction to Linux
- File system structure and management
- Command-line interface usage
- Process and thread synchronization
- Signals, semaphores, and MUTEX locks