

Embedded Design using 8051

Synopsis & Objective of Course

Basic controllers like 8051 or PIC are the best to learn embedded designing for beginners & professional alike. This course is intended to master a trainee in theoretical, practical & application oriented concepts of 8051 controller programming. Trainees will have the benefit of learning interfaces from the scratch & categorically attain a proficiency even in advanced interfacing.

Target Audience

Programmers and developers wishing to embark into the real embedded world or for those who wish to master the art of designing using $\mu P/\mu C$

Prerequisites

Attendees should have a basic knowledge of programming and computers. Previous knowledge of the C language is helpful but not essential.

Delivery

The training will commence with a conceptual understanding of basics leading to advanced & intricate features of the controller. The theory sessions will be appropriately woven with an adequate amount of practicals. By the end of the course the trainee would have mastered all kinds of interfaces.

Certain development projects will be given as assignments (under complete guidance) to master a trainee in implementation oriented programming.

Duration : 5 days

Course Contents

Day	Topic	Sub topics
Day 1	Introduction to microcontrollers 8051 architecture 8051 Programming Interface	Comparison with Microprocessors Harvard/ von Neumann architecture 8-bit/16bit/32-bit Micro controllers -overview CISC/ RISC and ARM architectures – Pros/Cons Overview of 8051 family Architecture of 8051 Program counter & ROM space in 8051 Flag bits and PSW register Register bank and stack Assembling and running an 8051 program Supporting IDE Debug support Accessing flash

