Embedded Design using µC ARM & EmbC

Synopsis & Objective of Course

By far ARM has proved out to be the most favoured processor (rather controller board) for most of the high-end embedded applications. ARM is also the target board for most on the mobiles & PDAs these days. The course significantly targets a comprehensive understanding of the various intricacies involving ARM and then practical application oriented programming using it. This is a complete course covering entire aspects of ARM taking LPC series as an example.

Target Audience

Engineers & programmers wanting to learn the exalted world of embedded design or for those who wish to master the art of designing using µP/µC

Prerequisites

Attendees should have a basic knowledge of programming and computers. Elementary knowledge of the C language and any processor/controller is 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 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	**Arm Embedded Systems**	The RISC design philosophy The ARM design philosophy Embedded system hardware Embedded system software
	ARM Processor Fundamentals	Registers Current Program Status Register Pipeline Exceptions, Interrupts, and the Vector Table Core Extensions Architecture Revisions ARM Processor Families

	LPC2106/2105/2104 Introduction	Features Applications Architectural Overview ARM7TDMI-S Processor On chip Flash Memory System On chip Static RAM Registers
	System Control Block	System Control Block Functions Pin Description Register Description Crystal Oscillator External Interrupt Inputs Memory Mapping Control PLL(Phase Locked Loop) Power Control Reset VPB Divider Wakeup Timer.
Day 2	**Pin Connect Block**	Features Applications Description Register Description
	GPIO	Features Applications Pin Description Register Description
	Vectored Interrupt Controller	Features Description Register Description VIC Registers Interrupt Sources
Day 3	**UART0/UART1**	Features Pin Description Register Description Architecture
	I2c Interface / SPI Interface	Features Pin Description Register Description Architecture

	Timer0 / Timer 1	Features Applications Pin Description Register Description
Day 4	**Pulse Width Modulator**	Features Pin Description Register Description
	Real Time Clock	Features Architecture Register Description RTC Interrupts
	Watchdog	Features Applications Register Description**.**
Day 5	**GNU Toolkit**	GCC Obj Dump Obj Copy Lpc_2000_flash utility

Trainers' Profile
Corporate Trainer(s) with more than 6 years of experience in embedded development & corporate training in CMM level5 companies.

Scheduled & On-site Training
Apart from in-house training programs, comprehensive training can be also provided as per the requirement & will be optimally customized as per the client's needs.

For training calendar, availability of seats & other details please mail us at training@sigmasolutions.co.in