



ARM Cortex-M0 System Design

Summary:

This course is designed for those who are involved in designing systems based around the ARM Cortex-M0 processor core. Including an introduction to the ARM product range and supporting IP, the course covers the Cortex-M0 core architecture, programmers' model, instruction set and bus architecture. The CoreSight debug architecture is also covered as relevant to the Cortex-M0.

Prerequisites:

- Some knowledge of embedded systems
- Familiarity with digital logic and hardware/ASIC design issues
- Knowledge of programming in C
- Experience of programming in assembler is useful but not essential
- A basic awareness of ARM is useful but not essential

Audience:

This course is intended for hardware design engineers who need to understand the issues involved when designing SoC's around the Cortex-M0 processor core. It is also intended for software engineers developing for systems designed around the Cortex-M0 core. The software development parts of this course refer to ARM development tools such as Keil MDK-ARM. However, much of this material is relevant to users of 3rd party ARM tools.

Length:

3 days

Modules:

- Introduction to ARM
- Cortex-M0 Overview
- Tools Overview for ARM Microcontrollers
- ARMv6-M Programmers Model
- ARMv6-M Memory Model
- ARMv6-M Exception Handling
- ARMv6-M Compiler Hints and Tips
- CMSIS Overview
- SysTick Timer
- AMBA AHB-Lite
- Cortex-M0 Core
- Cortex-M0 System Interfaces
- Cortex-M0 Integration Example
- Cortex-M0 Power Management
- Cortex-M0 Debug
- Cortex-M0 Implementation & Integration