



ARM Cortex-M3/M4 Software Development

Summary:

This course is designed for engineers developing software for platforms based around the ARM Cortex-M3 or Cortex-M4 processors. The course includes an introduction to the ARM product range and supporting IP, the Cortex-M3/M4 core, programmers' model, instruction set and debug architecture. The course includes a number of hands-on practical exercises to reinforce the lecture material.

Prerequisites:

- Some knowledge of embedded systems
- A basic awareness of ARM is useful but not essential
- Knowledge of programming in C
- Experience of assembler programming is not required but would be beneficial

Audience:

Software engineers writing application and system software for platforms using the ARM Cortex-M3 processor core.

Length:

3 days

Modules:

- Introduction to ARM
- Cortex-M3/M4 Overview
- ARMv7-M Programmers' Model
- Tools Overview for ARM Microcontrollers
- Keil MDK-ARM Introductory Workbook
- CMSIS Overview
- Cortex-M3/M4 Microarchitecture
- ARMv7-M Assembly Programming
- ARMv7-M Memory Model
- ARMv7-M Exception Handling
- ARMv7-M Compiler Hints & Tips



- ARM Compiler Workbook
- ARMv7-M Linker and Libraries Hints & Tips
- ARMv7-M Synchronization
- Embedded Software Development for Cortex-M Processors
- Embedded Software Development Workbook
- ARMv7-M Debug
- ARMv7-M Memory Protection
- ARMv7-M Extensions (Optional)