Lecture Topics (tentative)

- Introduction to the ARM Cortex-M Microcontroller Family
- ARM Cortex-M4 Architecture and Memory Map
- ARM Cortex-M4 Programmer's Model
- C Programming with the IAR Work Bench
- Interfacing to the Parallel I/O Ports
- Interrupts and interrupt service routines
- Programming the Timer Module
- Introduction to the uC/OS III Real-Time Kernel
- Input Capture and Output Compare
- Programming the PWM Module
- Analog Input and Output Interface
- Asynchronous Serial Communications Interface
- SPI Interface
- I2C Interface
- CAN Interface
- Advanced I/O Interfacing Techniques
- Design of Static Memory Systems
- Interfacing Static Memory to the ARM Cortex-M4 External Bus
- Critical Timing Analysis