

**ECE 4510/5530 MICROCONTROLLER APPLICATIONS
SPRING 2012**

Lecture Topics (tentative)

Introduction to the Motorola HC12/HS12 Microcontroller Families

MC9S12DP512 Architecture and Memory Map

CPU12 Programmer's Model and Basic Assembly Language Programming

C Programming with the ICC12 IDE Environment

uC/OS-II Real-Time Kernel Concepts

Interfacing to the Parallel I/O Ports

Programming the Flash Memory

Interrupts

Programming the Timer Module

Input Capture and Output Compare

Programming the PWM Module

Analog Input and Output Interface

Serial Communications Interface

SPI Interface

CAN Interface

Design of Static Memory Systems

Interfacing Static Memory to the MC9S12DP512 External Bus

8 or 16-Bit Memory Modules, Critical Timing Analysis