

# ELE492 Embedded System Design Based on PIC Microcontrollers

## Summer Session II, Tuesdays and Thursdays 6-9:45PM

Dates: 06/25/07 - 07/27/07

Instructor: Eugene Chabot

Embedded systems are everywhere - including automobiles, many household appliances, medical equipment, and industrial machinery to name a few. During this summer course, we will explore embedded system design concepts and reinforce these ideas with hands-on exercises. The PIC microcontroller by Microchip will provide the foundation of our designs with a robust feature set and tools typical of many microcontrollers on the market.

As previously mentioned, we will use a **hands-on approach** so students will have experience building basic embedded systems from both the **circuit and software level**. Some of the topics to be covered include analog to digital and digital to analog conversion, communication protocols, **embedded C programming**, and input/output interface design. The class will conclude with a small design project where students will build an embedded system.

This course should provide valuable knowledge and experience to computer, electrical, and biomedical engineers who want to learn about the PIC microcontroller, understand embedded design practices, experiment with an embedded C environment, and construct a complete functioning embedded system.

Prerequisites: Digital circuit design (ELE201 or equivalent background) and programming experience (ELE205, ELE208, or equivalent background)

For further information, contact me by email at [chabote@ele.uri.edu](mailto:chabote@ele.uri.edu).

