

## **EECE 337: Embedded Systems Development**

**Prerequisites: EECE 135; EECE 221 or CSCI 221; Recommended: EECE 235 and EECE 320**

### **Required for CMPE**

**Catalog Description:** This course presents the concepts and techniques associated with designing, developing, and testing embedded systems software. Topics include the nature and uses of embedded systems, embedded development and debugging environments, embedded programming techniques, embedded software design, embedded processor characteristics, interrupt handling, and low level device I/O.

### **Course Objectives:**

- understand the characteristics of Embedded Systems
- understand Embedded Systems development tools
- understand device level programming

### **Course Outcomes:**

Students shall be able to:

- design, write and test embedded applications
- develop embedded applications that interface to low level devices
- design and develop interrupt driven embedded applications

### **Class/Laboratory schedule:**

- Two hundred minutes a week lecture

### **Contribution of Course to Meet the Professional Component:**

- Engineering Science: 2.0 units
- Engineering Design: 2.0 units

### **Relationship of Course to Program Outcomes and Objective:**

This course makes significant contributions the following program outcomes:

- An ability to design a system, component, or process to meet desired needs
- An ability to identify, formulate and solve engineering problems
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

This course supports the achievement of the following elements of the program objective:

- Apply knowledge of mathematics, science, and engineering to identify, formulate, and solve computer engineering problems
- Use industry standard tools to analyze, design, develop and test computer-based systems containing both hardware and software components.
- Achieve success in graduate programs in computer engineering, electrical engineering or computer science.
- Continue to develop their knowledge and skills after graduation in order to succeed personally and contribute to employer success.