

## **ECET 3701: Embedded Systems**

### **2 Credit Hours**

*Prerequisite: ECET 2210 and ECET 2310*

Introduction to the programming and interfacing of embedded systems.

Programming will introduce a high-level object-oriented language and explore concepts such as multithreading and industry standard resource management/sharing mechanisms. Programming will focus on low-level hardware interfacing via standard GPIO and a variety of serial communication protocols. The class will also explore the use and application of statistical analysis.

## **ECET 3710: Hardware Programming and Interfacing**

### **3 Credit Hours**

*Prerequisite: ECET 2210 and ECET 2300*

This course will teach students the fundamental concepts of hardware programming and interfacing using abstract programming language(s) and several interfacing technologies commonly used in microcontroller design. In addition to learning basic design and interfacing techniques, other skills such as writing pseudo code, developing C/C#-based applications, and applying statistical analysis will be explored.

## **ECET 3710L: Hardware Programming and Interfacing Lab**

### **1 Credit Hours**

*Concurrent: ECET 3710*

The laboratory component of ECET 3710 is designed to provide the student with hands-on experience in the fundamental concepts of hardware programming and interfacing using abstract programming language(s) and several interfacing technologies commonly used in microcontroller design. Lab exercises are oriented around a popular microcontroller and associated peripheral devices.

## **ECET 4420: Communications Circuit Applications**

### **2 Credit Hours**

*Prerequisite: ECET 2310 and ((PHYS 2212 and PHYS 2212L) or (PHYS 1112 and PHYS 1112L))*

This course examines radio frequency communications circuits and their applications. Receiver and transmitter circuits such as amplifiers, oscillators, modulators and demodulators are studied. Spectral analysis is introduced and the effects of noise in communications systems is investigated.