

# **ECE4602 Course Syllabus**

## **ECE4602**

### **Communication Systems Laboratory (0-3-1)**

#### **Prerequisites**

ECE 4601

#### **Corequisites**

None

#### **Catalog Description**

To examine the performance of analog and digital telecommunications systems and components.

#### **Textbook(s)**

No Textbook Specified.

#### **Topical Outline**

##### Telecommunications Signals

- Spectral Analysis of Periodic and Random Signals

- Statistical Properties of Random Signals

- Eye Patterns

- Pseudo-Noise Sequences

##### Analog Modulation

- Conventional AM

- Double Side Band Suppressed Carrier

- Single Side Band Suppressed Carrier

- Frequency Modulation

##### Analog Demodulation

- Synchronous Demodulator

- Envelope Demodulator

- Frequency Discriminator

- Phase Locked Loop

##### Computer Simulation of Telecommunication Systems

- Binary Phase Shift Key

- Quadrature Phase Shift Key

- Offset Quadrature Phase Shift Key

- Multipath-fading

- Probability of Error vs. SNR

##### Digital Telecommunications

- Spectra of Binary FSK

- Bell 103 Type Modem

- SNR Measurement

- BER Measurement

Coding

Convolutional Coding

Viterbi Decoding