EE 3701: Signals and Systems

3 Credit Hours

Prerequisite: EE 2302 and Engineering Standing

This course explores discrete and continuous-time systems analysis, with emphasis on linear time-invariant (LTI) systems, the classification of continuous-time systems, convolution and its application to LTI systems and analysis of LTI systems via the Laplace transform, Fourier transform, and Fourier series.

EE 3702: Communication Systems

3 Credit Hours

Prerequisite: EE 3701 and Engineering Standing

Amplitude modulation, frequency and phase modulation and demodulation techniques are examined. Bandwidth and power considerations, noise in communication systems, signal analysis and transmission are included as are noise and probability aspects of communication systems and practical communication systems.

EE 3706: Computer Networking

3 Credit Hours

Prerequisite: EE 2501 and Engineering Standing

The main goal of this course is to introduce students to the fundamentals of computer network architecture and network protocols. Topic includes OSI Model, TCP/IP, routing protocols, link layer techniques and network security. Students will read related research papers and work on their group projects, which will solidify the foundation of their knowledge through the real-world implementation of their new ideas in network simulators or test-beds.

EE 4201: Control Systems

4 Credit Hours

Prerequisite: Engineering Standing , and EE 2301, and MATH 2306.

The focus of this course is a study of feedback control systems theory including practical applications of compensation and P,PI, and PID concepts. Control system modeling, transient and steady state characteristics and response, stability and frequency response are analyzed; Compensation and controller design using Root locus methods are covered. The use of control system software, such as MATLAB, in the analysis and design of control systems is emphasized.