ECET 3500L: Survey of Electric Machines Lab

1 Credit Hours

Concurrent: ECET 3500

This lab course supports the ECET 3500 Survey of Electric Machines course. Students will set-up, operate, measure the operational characteristics, and evaluate the performance of a variety of machines including transformers, induction machines, DC machines, and synchronous machines.

ECET 3600: Test Engineering

3 Credit Hours

Prerequisite: ECET 2310

This course is an introduction to test engineering principles with an emphasis on computer-controlled instrumentation and acquisition using a communication interface. Application software will be written in LabVIEW to automatically test devices using GPIB/VISA test equipment. BIST, MTBF, Boundary scan testing, instrumentation, instrumentation automation, ISO 9000, TQM, usability, and other related test engineering topics will also be covered.

ECET 3600L: Test Engineering Lab

1 Credit Hours

Concurrent: ECET 3600

This course involves extensive use of LabVIEW for simulation and interfacing to test instruments in the lab. Students learn how to program in LabVIEW and they design an automated test and measurement system.

ECET 3620: Signals and Systems Analysis

3 Credit Hours

Prerequisite: ENGT 2000 and ECET 2300

This course presents the analysis of continuous- and discrete-time signals occurring in circuits and systems containing linear and nonlinear elements. Methods include graphical techniques, Laplace transform, Fourier analysis, convolution, and difference equations. Topics regarding communication systems, Bode plots for transfer functions, classical filter responses, and practical second-order filter designs are also presented. An introduction to discrete-time systems including sampling theory is provided covered.