ECE 1304: Introduction to Electrical and Computer Engineering

Credit / Contact hours: 3 / 3

Course coordinator: Tanja Karp

Textbook(s) and/or other required material: William J. Palm III, Introduction to MATLAB 7 for Engineers, McGraw Hill, 2005. (Recommended)
MATLAB Student License (Recommended)

Catalog description: Introduction to the electrical and computer engineering disciplines including familiarization with relevant design tools. Overview of the profession, contemporary issues, and ethics.

Pre-requisite(s) or co-requisites: MATH 1351 (may be taken concurrently).

Designation: Required

Course learning outcomes: Upon completion of this course, students should be able to do the following:

1. Write Matlab programs to solve simple engineering problems.
2. Solve problems in Matlab involving simple signal processing concepts (e.g., sinusoids, frequency, and spectrum).
3. Analyze simple electric circuits.
4. Analyze issues involving professional ethics in engineering.

Student outcomes addressed: a, e, f, and k.

Topics covered

Introduction to engineering problem solving using Matlab – 9 hours
Signal characteristics – 4 hours
Introduction to Signal Processing and Communications – 10 hours
Introduction to other topics in Electrical and Computer Engineering (e.g., electric circuits, digital logic design) – 12 hours
Engineering Profession and Ethics – 4 hours
Tests – 3 hours