ECE 1305: Introduction to Engineering and Computer Programming

Credit / Contact hours: 3 / 3

Course coordinator: Ayrton Bernussi

Textbook(s) and/or other required material: Walter Savitch, *Absolute C++*, 5th Edition, Addison-Wesley, 2012.

Catalog description: An introduction to the fundamentals of computing and structured programming for electrical engineering.

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. Solve simple problems using sequential, conditional, and repetition structures.
2. Solve simple problems using predefined and user-defined functions.
3. Solve simple problems using 1-D and 2-D arrays.
4. Solve simple problems using Strings and file I/O.
5. Solve simple problems using Pointers and dynamic memory allocation.
6. Solve simple problems using Structures..

ABET Student Outcomes addressed: a, e, and k

Topics covered

Basic Computer Terminology and Information Storage – 6 hours
Control Structures – 5 hours
Predefined and User-defined Functions – 6 hours
1-D and 2-D Arrays – 6 hours
Strings and File I/O – 5 hours
Pointers and Dynamic Arrays – 6 hours
Structures and an Introduction to Classes – 5 hours
Tests – 3 hours