

ELC 127
SOFTWARE FOR TECHNICIANS

COURSE DESCRIPTION:

Prerequisite: None

Corequisite: None

This course introduces computer software which can be used to solve electrical/electronics problems. Topics include electrical/electronics calculations, applications, and controls. Upon completion, students should be able to utilize a personal computer for electrical/electronics-related applications. Course Hours Per Week: Class, 1. Lab, 2. Semester Hours Credit, 2.

COURSE OBJECTIVES:

Upon completion of this course, the student will be able to:

- a. Use computer programs to write, edit, execute, and debug computer code.
- b. Write programs to solve algebraic formulas.
- c. Write programs to perform algorithms.
- d. Create and interpret flow charts for programs.
- e. Compile programs.
- f. Understand the process of debugging programs.
- g. Understand the process for programming Complex Programmable Logic Devices.
- h. Use computer programs to simulate electronic circuits.

OUTLINE OF INSTRUCTION:

- I. Problem Solving and Programming Logic Design
 - A. Understanding the problem
 - B. Planning the logic with a flow chart
 - C. Coding the program with software
 - D. Testing and troubleshooting the result

- II. Programming Languages
 - A. Software instructions
 - B. Compiling programs
 - C. Debugging programs
 - D. Executing programs

- III. Computer Aided Design Tools for Engineering Students
 - A. Introduction to Complex Programmable Logic Devices (CPLD)

B. Introduction to Very High Level Design Language (VHDL)

IV. Computer Simulation for Engineering Students

A. Simulating electronic components and circuits

B. Simulating electronic systems

REQUIRED TEXTBOOKS AND MATERIALS:

None

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.