

Revised 02/90

NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY

ETR 158 - ELECTRONIC CIRCUITS FOR COMPUTERS (4 CR.)

COURSE DESCRIPTION

Study of basic electrical and electronic principles used in repair and troubleshooting of computer systems. Includes Ohm's and Kirchhoff's laws, capacitor and diode circuit analysis, power supply circuits, and transistor fundamentals. Use of the laboratory equipment (oscilloscope and DMM) is stressed. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

GENERAL COURSE PURPOSE

To provide basic electronic skills which are essential for computer troubleshooting.

ENTRY LEVEL COMPETENCIES

None

COURSE OBJECTIVES

Upon completion of the course, the student should be able to understand the basic electrical laws and the operation of capacitors, diodes, and transistors. The student will also be proficient in the use of the oscilloscope and the DMM

MAJOR TOPICS TO BE INCLUDED

LECTURE

- A. Resistors
- B. OHM's Law
- C. Kirchhoff's Laws
- D. AC Signals
- E. Capacitors
- F. Diodes
- G. Power Supplies
- H. Switching Transistors

LABORATORY

- A. Resistor Measurement
- B. Circuit Analysis using OHM's Law
- C. Circuit Analysis using Kirchhoff's Laws
- D. Measurement of AC Signals
- E. Transient Analysis of Capacitors
- F. Diode I-V Curve
- G. Diode Rectifier Circuits
- H. Switching Transistor Circuits
- I. Power Supply circuits
- J. Power Supply Regulation Experiment