

## CSET-1500 Survey of Computer Electronics

This course is designed for those who want to explore the field of computers. Topics studied include circuit components, Ohm's Law, basic DC and AC circuits, power supplies, transistor amplifiers, integrated circuits, and an introduction to computer hardware, tools and test equipment.

### **Catalog Description:**

CSET 1500 Survey of Computer Electronics [3 semester credits. Prerequisite: None]  
Designed to explore the field of computers. Topics include circuit components, Ohm's Law, DC and AC circuits, power supplies, transistor amplifiers, integrated circuits, and an introduction to computer hardware.

### **Performance Based Objectives:**

- Apply technical terms in their proper context when writing or speaking.
- Measure electrical quantities (e.g., voltage, current, resistance, frequency, etc.) accurately and draw conclusions.
- Use electronic test equipment to test electronic circuits.
- Analyze and locate problems in basic electronic circuits.
- Demonstrate knowledge of a basic approach to troubleshooting.
- Analyze and interpret circuit diagrams.
- Apply knowledge of the basics of electronics to a variety of applications seen in the profession.

### **Topics for Discussion:**

- Introduction and Overview
- Number Systems and Codes
- Basic Electrical Concepts, Components and Circuits
  - Voltage, Current, Resistance, Ohm's Law
- Basic Electronic Concepts, Components and Circuits
  - Transistors, Logic Gates and Circuits, Chips and DIPs
- Operation and Use of the Volt/Ohm Meter
- Operation and Use of the Oscilloscope
- Diagnostic Software
- Static Electricity and Appropriate Precautions
- Computer Hardware
  - Operation of Traditional And Switching Power Supplies

- Laptop Batteries
- Installation and Handling of Expansion Cards
- Installation and Handling of Memory Chips
- Installation and Handling of Microprocessor Chips
- Installation and Handling of Motherboards
- Installation and Handling of Disk Drives
- Interpretation of Electrical Codes and Standards
- Power Strips and Surge Protection
- Voltage Regulators
- Uninterruptable Power Supplies
- Radio Frequency Theory and Wireless Devices