

# **COURSE OUTLINE**

## **ELEN 232**

### **Computer Systems Operation, Maintenance and Troubleshooting 4 Semester Hours**

## **The Community College of Baltimore County**

### **Description**

Computer Systems Operation, Maintenance, and Troubleshooting  
Examines the interrelationships between hardware and software at the systems level; introduces systems functions and equipment such as video adapters, mass storage interfaces, serial and parallel ports, printers, video displays, and modems.  
Prerequisite: ELEN141 or permission of program coordinator.

### **Overall Course Objectives**

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

1. Identify the basic components of a microcomputer.
1. Distinguish between the popular CPU chips in terms of their basic characteristics.
2. Identify available IRQs, DMAs, and I/O addresses and procedures for configuring them for device installation.
3. Identify basic procedures for disk management.
4. Identify proper procedures for installing and configuring peripheral devices
5. Identify hardware methods of upgrading system performance, procedures for replacing basic subsystem components, unique components and when to use them.
6. Identify common symptoms and problems associated with each module and how to troubleshoot and isolate the problem.
7. Discuss the fundamental workings of multimedia technology.
8. Describe the basics of how computers communicate with each other.
9. Identify basic networking concepts.
10. Identify the major components of a printer.

### **Major Topics**

The System Board  
Floppy Drives  
Introduction to Hard Drives  
Hard Drive Installation and Support  
Supporting I/O Devices  
Multimedia Technology  
Electricity and Power Supplies  
Communicating over Phone Lines

Networking Fundamentals and the Internet  
Printers and Notebook Computers

**Required Texts:**

Enhanced A+ Guide to Managing and Maintaining Your PC,  
Jean Andrews, Course Technology, ISBN Number: 0-619-03433-5

Enhanced A+ Lab Manual for Guide to Managing and Maintaining Your PC  
Clint Saxon, Course Technology, ISBN Number: 0-619-03435-1

**Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following: a minimum of five (5) major graded assignments (possibly including hourly exams, a midterm exam and/or lab projects) plus a final examination.

**Other Course Information**

This course is a requirement for CCBC's A+ Certificate program. This course, along with ELEN 141, helps prepare students for the A+ certification exam offered by the Computer Industry Association (CompTIA).