

**COURSE OUTLINE**  
**CMSY-106**  
**Personal Computer Systems Repair II**  
**3 Credits**

**HOWARD COMMUNITY COLLEGE**

**Description**

Upon completion of this follow-on course, the student will have a basic technical understanding of the function and operation of the major peripheral devices used with or connected to personal computer systems, and how to localize and correct common hardware problems associated with those devices. The major peripheral devices which are emphasized in this course include state-of-the-art data storage devices, display technology, printers, scanners, SCSI devices, multimedia devices, modems, and local area network devices. Emphasis will be placed on techniques for installing, configuring, maintaining, testing and fault isolating these devices within the PC systems. The student will also learn IRQ conflict resolution, I/O address setting, DMA channel conflict resolution, optimizing memory, fine tuning autoexec.bat, config.sys files and Windows initializing files (.ini files) and configuring systems with Windows. This course, along with CMSY-105 - prerequisite, prepares students for the hardware level of A+ certification offered by the Computer Industry Association. Prerequisite: CMSY-105. (2 hours lecture, 3 hours lab)

**Overall Course Objectives**

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

1. Identify all of the major components of a personal computer.
2. Install and troubleshoot various types of memory, floppy disk drives and hard drives.
3. Identify and select monitors and video adapters.
4. Configure and optimize the PC memory.
5. Perform preventative maintenance on the PC.
6. Identify and select the best PC based on technical information.
7. Identify and select upgrade requirements based on application.
8. Diagnose and troubleshoot hardware and software failures/conflicts.
9. Install a printer.
10. Troubleshoot dot matrix and laser printers.
11. Perform the installation of scanners and test the operation of the scanners.
12. Configure the installation and use of multimedia.
13. Perform the operation and installation of modems.
14. Identify the various configurations, devices and protocols of a local area network.
15. Perform the installation of an ethernet local area network.

**Major Topics**

- I. Review of Hard Disk Drive/Floppy Drives/Monitors
  - A. Installation
  - B. Preventive Maintenance
  - C. Troubleshooting

- II. Printer and Printer Interfaces
  - A. Components
  - B. Maintenance
  - C. Dot-Matrix Printers
  - D. Laser Printers
  - E. Troubleshooting
- III. Modems and Serial Interfaces
  - A. Components
  - B. RS 232 - cable
  - C. Maintenance, Troubleshooting
- IV. Multimedia
  - A. Scanners - Installation, Maintenance, Troubleshooting
  - B. What is Multimedia?
  - C. How to buy or make an MPC system
  - D. Choosing multimedia sound boards
  - E. Installing the multimedia system
- V. Local Area Network
  - A. Topologies
  - B. Installation of Networks, Configuration
  - C. Maintenance, Troubleshooting

### **Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but will be based on exams, lab reports, and projects.

Writing: Students are expected to write a laboratory report after performing lab assignments.

### **Other Course Information**

This course is a course in Computer Technology letter of recognition program.