

Bergen Community College
Division of Business, Math & Social Science
Student Course Outline
Spring 2000 Semester

Instructor Cannon, MCP, A+

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Course Title:

DP 108 PC Upgrade, Maintenance and Diagnosis
2 hour lab)

Reference url: <http://www.askjohn.com>

Office: S-330

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Credits/Hours:

3 credit (2 hour lecture,

Overview of the Course

PC Upgrade, Maintenance and Diagnosis is for the person or business user with no technical background. Students will assemble and upgrade a PC by adding memory, floppy drives, hard drives, tape drives, zip drives, modems, multi-media, and local area networks. Students will partition and format drives, perform procedures to speed up processing; and make system configuration changes. Students will also perform maintenance, diagnostic, and troubleshooting procedures, as well as be advised when and where to go for major repairs.

Course Objectives

At the completion of this course, with appropriate study, you will be able to do the following:

1. Identify the components of a computer system.
2. Introduce the necessary concepts and vocabulary.
3. Familiarize students with upgrading methods.
4. Familiarize students with maintenance techniques.
5. Familiarize students with diagnostic testing.
6. Familiarize students with troubleshooting & repair.
7. Provide extensive “hands-on” experience.

Requirements

Students will be expected to work in small groups at workstations as a team. Lab work and tests will be used to evaluate the student's grasp of the subject in determining the final grade. Although all work is done in group, each individual will have an opportunity to perform a portion of the lab exercise and therefore be responsible for all the material presented.

Lateness

Attendance will be taken at the time at the beginning of class. If you are not in attendance at that time, you will be carried in the roll book as begin absent. If you come to class late, it is your responsibility to notify your instructor at the end of that class or you will be carried in the role book as absent, and the record will not be changed at a later date.

For each absence, five points will be deducted from your hands-on lab performance grade (for example: LPG= 100 and you have two absences, therefore, your LPG = 90).

For each lateness, three points will be deducted from your hands-on lab performance grade.

Notes

In borderline cases, which arise in almost every class, a student's class participation, attitude, and observed effort will be considered in helping to determine the student's final grade.

Required Text

Upgrading and Repairing PC's, Scott Mueller, 10th edition Que Corporation, 1998, Carmel, IN 46032

Supplies

- ② **Five or more 3.5-inch high density floppy disks (depending on capacity)**
- ② **Fourteen Scantron forms**
- ② **Number 2 pencils**
- ② **A soft white eraser**

Evaluation

80% of the final grade average for the course will be determined by three exams (total of 80 points). Each of the three exams will consist of a written part worth (30 points), and hands-on part worth (70 points). No make-up exams will be given.

20% of the final grade average for the course will be determined by your hands-on lab performance, which requires your attendance (total of 20 points). Five points will be deducted for each absence and two points will be deducted for each lateness.

Class Schedule

The following is a tentative schedule based on class needs. The instructor reserves the right to make any schedule changes deemed necessary.

Date	Activity
Week 1	<p><u>Lecture:</u> course outline & calendar (handout); power supply and power protection systems (pp. 391, 435); video display features (pp.499).</p> <p><u>Lab:</u> AXT, 286, 386, 486 and Pentium motherboards; processor types and specifications (pp.174; 80-165); demonstration of SPS; execution of selected video diagnostics.</p>
Week 2	<p><u>Lecture:</u> floppy disk drive features and operation (pp.770-795); boot process (pp.1042-1063); memory types, layout, and upgrading (pp. 301-390).</p> <p><u>Lab:</u> 1.44 floppy drive installation; execution of selected floppy drive diagnostics; execution of selected memory diagnostics. (pp. 793-795; 1079; 1094).</p>
Week 3	<p><u>Lecture:</u> Hard disk drive features and operation (pp.719-770); the IDE hard disk drive interface and features (pp.610-625).</p> <p><u>Lab:</u> IDE hard disk drive installation; formatting one partition; loading DOS; and performing selected hard disk drive diagnostics.</p>
Week 4	<p><u>Lecture & Lab:</u> continuation of IDE HDD:</p> <ul style="list-style-type: none">- Install IDE- Create and format two partitions as drives C and D and load DOS- Install mouse and mouse driver- Upgrade DOS to Windows 3.1 (pp. 610-625; 95; 1041). <p>Test #1 in two parts covering weeks 1-4 Part 1 is a timed written individualized test Part 2 is a timed group hands-on test</p>
Week 6	<p><u>Lecture:</u> CD ROM drive features, operation and installation ; multi-media features and components (pp. 28-29; 551-552; 823-868; 963).</p> <p><u>Lab:</u> Install IDE hard disk drive, CD-Rom drive, sound card, and Speakers; partition and format HDD; upgrade DOS to Windows 3.1; upgrade WINDOWS 3.1 to WINDOWS 95; explore multi-media operation.</p>
Week 7	<p><u>Lecture:</u> SCSI hard disk features & operation (pp. 626-654).</p>

Lab: Install IDE and SCSI hard disk drives, and CD-ROM drive; DOS partitioning and formatting; SCSI partitioning and formatting; upgrade DOS to WINDOWS 95; execute selected diagnostics.

Week 8

Lecture: **Diagnostic tools** (pp. 983; 1238; 991-995; 983-998).

Lab: Reinstall IDE and SCSI hard disk drives and CD-ROM drive; Partition and format the drives under DOS; upgrade DOS to WINDOWS 95. Install, configure and execute selected software and diagnostic packages.

Week 9

Lecture: **Viruses** – viruses types, recovery techniques, and prevention (handout); discuss various **backup techniques** and methods; and features of tape backup and zip drive (pp. 812-821; 1012-1013; 1024-1068).

Lab: Install CD-ROM drive and IDE HDD; upgrade DOS to WINDOWS 95; execute selected virus simulations; install external type drive and execute selective and total tape backups and restorations; install zip drive and execute backup.

Week 10

TEST #2 in two parts covering weeks 6-9.

Part 1 is a timed written individualized test.

Part.2 is a timed group hands-on test.

Week 11

Lecture: **Serial and parallel communication ports and file transfer** (pp.583-600; 677-1231).

Lab: Install CD-ROM drive and IDE hard drive, and serial and parallel ports; upgrade DOS to **WINDOWS 98**; install LAPLINK cables and software; execute local and remote file transfers.

Week 12

Lecture: **Modem features and standards** (pp. 655-671).

Lab: Install CD-ROM drive and IDE hard drive, and serial and parallel ports; upgrade DOS to **WINDOWS 98**; install, configure, and operate **Modem**.

Week 13

Lecture: **Local Area Networking (LAN):** topologies, components, protocols; and configuring Network Interface Cards (pp. 678-708).

Lab: Installing, configuring and using a **PEER-TO-PEER** network under WINDOWS 95.

Week 14

Lecture & Lab: Installing, configuring and using a **CLIENT/SERVER** network under **WINDOWS NT** or **Peer-Peer network with Windows 95/98**.

Week 15

Test #3 in two parts covering weeks 11-14.

Part 1 is a timed written individualized test. Part.2 is a timed group hands-on test.

