SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

Course Title : **PC Maintenance**

Course No.: **ELN-230**

Program: **Electrical / Electronics / Instrumentation Technician**

Semester: **Three**

Author(s): **Ed Sowka**

Date: **September 1999**

Previous
Outline Dated: **September 1998**

Approved:

_____   _____

            Dean   Date

Course Name:	Course No.:
PC Maintenance	**ELN-230**

TOTAL CREDITS: 3

PREREQUISITES: **CET-110 (EDP-122 Substitute)**

COURSE LENGTH: **3 Hrs. / Week @ 16 Weeks**

TOTAL CREDIT HOURS: **48**

I. COURSE DESCRIPTION

This lab oriented course will develop the students skills in assembling, configuring and troubleshooting a typical Personal Computer. Students will install and setup various pieces of hardware typical in a PC, in both the DOS and Windows 95 environments. Emphasis is placed on the hands-on skills.

II. TOPICS TO BE COVERED:

1. PC overview (Block Diagram)

2. Hardware / Software overview

3. Hardware details (Power Supply, Motherboards, Video, Storage, Communications)

4. Operating System details (Installation and Configuration) (DOS and Windows 95)

5. Maintenance and Upgrading

Course Name:
PC Maintenance

III. LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:

A. Learning Outcomes:

1. Assemble and make operational, a typical personal computer.

2. Install and modify, hardware and software associated with a personal computer.

3. Troubleshoot simple problems in a PC environment in both DOS and Windows '95.

B. Learning Outcomes with Elements of Performance:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Understand and accurately discuss hardware and software components of a PC.

Potential elements of the performance:

- Describe and understand the block diagram of a typical PC.
- Describe, understand and modify the system BIOS.
- Describe details of hardware components.

2. Install and make operational a typical Desktop PC.

Potential elements of the performance:

- Demonstrate the ability to install and make operational, basic components of a PC.
- Demonstrate the ability to install an operating system (DOS and Windows'95).
- Demonstrate the ability to install and make operational, additional components of a PC such as CD ROM's, Sound Cards, Network Cards etc.

B. Learning Outcomes with Elements of Performance: (cont'd)

3. Troubleshoot typical PC problems using available diagnostic tools.

Potential elements of the performance:

- Demonstrate logical troubleshooting process to diagnose and correct system faults.
- Correctly implement available diagnostic tools.

4. Accurately select and install PC upgrades.

Potential elements of the performance:

- Discuss and recommend system upgrades.
- Demonstrate the installation of hardware and software upgrades.

IV. REQUIRED STUDENT RESOURCES:

- Textbook - Assembling and Repairing Personal Computers by Dan L. Beeson
- 2 - 3.5" 1.44 MB Floppy Disks
- Basic Hand Tools (Needle Nose Pliers, #2 Phillips Screwdrivers)

V. METHODS OF EVALUATION:

The following Grading System will be used:

                          A+ = 90% - 100%
                          A = 80% - 89%
                          B = 70% - 79%
                          C = 60% - 69%
                          R = less than 60% (Repeat Course)
                          X = Temporary Grade as per College Policy

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The final grade will be derived as follows;

>   40 % Theory - (2 Theory Tests and various quizzes)
>   50 % Practical - (2 Practical Tests and In-Process Lab Evaluation)
>   10 % Subjective Evaluation **

** The subjective evaluation consists of attendance, constructive participation and
professional work ethic.

VI. SPECIAL NOTES:

1. The Instructor reserves the right to modify the course as is deemed necessary to meet the
needs of the students.

2. Students with special needs (Physical Limitations, Visual/Hearing Impairments etc.) are
encouraged to discuss confidentially, required accommodations with the instructor
and/or   contact the Special Needs Office, Room E1204, Extension 493, 717 or 491.

3. Attendance to lab activities is compulsory, unless discussed with the instructor in advance
of the absence. Your attendance and final grade are directly related.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in this course, should consult with the
Professor.