SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: INTRODUCTION TO COMPUTER APPLICATIONS
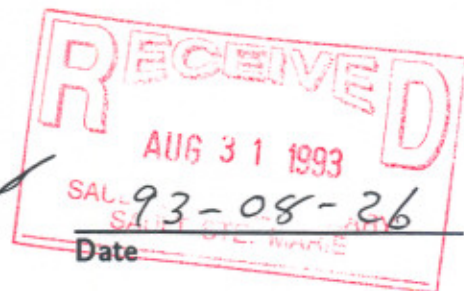
CODE NO: CET110   **SEMESTER:** ONE

PROGRAM: SCHOOL OF ENGINEERING TECHNOLOGY PROGRAMS

AUTHOR: PETER SAVICH

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APPROVED: _Don M Corn_
Dean, School of Engineering Technology   Date

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INTRODUCTION TO COMPUTER APPLICATIONS   CET 110 - 3

C O U R S E   O U T L I N E

LENGTH OF COURSE: 3 HOURS PER WEEK FOR 16 WEEKS
                      (1 HOUR THEORY CLASS PER WEEK & 2 HOUR LAB
                         CLASS PER WEEK)
PREREQUISITES: NONE

I.   PHILOSOPHY/GOALS

       This is an introductory computer course for students enroled

       in programs within the **School of Engineering Technology**, other

       than the C.E.T. Program. The goal of this course is to help

       the student understand more about personal computers. This

       course provides the introduction to some of the terms and

       concepts that will be discussed more in depth, in later

       courses, specific to the students' program. Within this

       course, the student will learn what makes up the basic

       physical parts of the computer, what software is, and how

       computers process information.

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II. Student Performance Objectives

At the end of this course the student will:

1. Define the terms <u>hardware</u> and <u>software</u>, distinguish
    between <u>operating system software</u> and <u>application
    software</u>, and identify and discuss the four elements in
    the flow of information in a computer: <u>input, processing,
    output, and storage.</u>

2. Appraise the utility of some of the software application
    programs available for the IBM PC microcomputer and
    compatibles.

3. Demonstrate some measurable in words per minute
    proficiency in keyboarding.

4. Demonstrate basic skills with the operating system for
    personal computers: MS DOS ver 5.0

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5.   Prepare sample engineering reports using representative
     software applications such as WordPerfect 5.1 for
     DOS (word processing package), , and QuattroPro
     (spreadsheet package).

6.   Time permitting, program using qbasic (programming
     language).

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III. Topics to be covered:

Module 1 Computers Simplified textbook

1. Getting started: hardware and software, how computers work.

2. The basic computer: cases, expansion cards, power supply.

3. Input/Output: keyboard, mouse, joystick, video adapter and monitor, printer, modem, scanner, soundboard.

4. Processing: memory, central processing unit.

5. Storage: how files are stored, hard disk drive, floppy disk drive, CD-ROM drive, tape backup unit.

6. Portable Computers: screens, expansion, batteries and power management, microprocessors, hard drive and memory.

7. Operating Systems: MS-DOS, Windows, and OS/2

8. Application software: wordprocessing, spreadsheets, databases, desktop publishing.

9. Networking: common network terms, network additions, bus, token-ring, star.

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III. Topics to be covered (cont'd):

Module 2 Wordperfect version 5.1 for DOS textbook

1. Help: global help, context sensitive help.

2. Pull Down Menus

3. Create and edit a document: start a document, save and name a document, retrieve a document, cursor control, insert or typeover text, delete text, display and use doc 1 and doc 2.

4. Move, copy, delete, and restore text.

5. Format your documents: setting margins, setting tabs, indent text, modify text, control text.

6. Check your documents: search, replace, and spellcheck

7. Print your documents: select paper and form sizes, view document, print displayed document.

8. Manage your documents: delete/move or rename/print/look, other directory/copy/name search.

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Module 3 QuattroPro (or lotus 123 for DOS release 2.3) textbook

1.   Getting Started

2.   Enter data: worksheet navigation, enter labels, enter
     numbers and formulas, specify range, enter functions.

3.   Save and open worksheets: files and directories, create
     a directory, change a default directory, save a
     worksheet, the viewer Add-in, retrieve a file.

4.   Move and copy data: move data, copy data, relative
     reference, and absolute reference.

5.   Rows and columns: erase data, change row height, change
     column width, and insert/delete rows and columns.

6.   Change data appearance: format values, align labels.

7.   Create a graph: create a graph, change graph type, add X-
     axis labels, add a title, add a legend, add grid lines,
     3D effect, add graph to worksheet, and re-size a graph.

8.   Print: print worksheet, preview worksheet, and change
     page setup.

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Module 4 MS-DOS 5.0 textbook

Section I: Using the command prompt

1. Getting started: using this guide, introduction to MS-DOS 5.0

    change date or time, specify drives and directories, internal and external commands, and help facility.

2. Managing your directories: files and directories, make directory, change directory, remove directory, and tree command.

3. Managing your files: directory, sort files, copy files, rename files, delete files, undelete files, type files, print files, and edit files.

4. Managing your floppy disks: 3.5" and 5.25" floppy disks, format and diskcopy commands.

5. Managing your hard disk: backup, restore, xcopy, and check disk commands.

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Section II: Using the MS-DOS Shell

1. Getting started: start the MS-DOS shell, select commands, change screen mode, change color scheme, and help facility.

2. Managing your directories: change disk drives, change directories, create directories, expand or collapse directory levels, delete directories, and show information.

3. Managing your programs: start a program, switch between programs, and quit the MS-DOS shell.

4. Managing your files: change views, select multiple files, search for files, sort files, copy or move files, rename files, and delete files.

5. Disk utilities: disk copy, backup fixed disk, restore fixed disk, format and undelete.

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IV. Learning Activities / Required Resources

Module 1:   Computers simplified

At the end of this block the student shall be able to:

chapter 1

1.   Define the terms hardware and software.

2.   Distinguish between "operating system software" and "application software".

3.   Identify and discuss the four elements in the flow of information in a computer: input, processing, output, and storage.

chapter 2

4.   Describe the two main types of cases: Desktop and Tower.

5.   Identify the major components of the computer.

6.   Define what an expansion card is and describe how it works with a computer.

7.   Name the different types of expansion slots.

8.   Explain different ways to protect your equipment.

chapter 3

9.   List several input devices and explain how they work.

10. Explain the function of many of the computer keyboard's keys.

11. List several output devices and explain how they work.

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12. Define what a video adapter is and how graphics are displayed.

13. Describe the differences between different types of monitors.

14. Identify two type of printers and describe the differences between them.

15. Describe how a printer's speed and quality are measured.

16. Explain what modems are used for.

17. Define what a scanner is and what it does.

chapter 4

18. Define memory

19. Discuss how memory works and how it is memory.

20. Define and discuss conventional and extended memory.

21. Explain the three factors that affect CPU performance: speed, type and generation.

22. Define the differences between Intel's CPU chips.

23. Discuss what cache memory is and how it impacts the speed of a computer.

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chapter 5

24. Discuss how data is stored and organized.

25. Define hard disk and explain how it works.

26. Explain how cache speeds up processing.

27. Discuss storage and speed as they relate to choosing a hard drive.

28. Define floppy disk drive.

29. Distinguish between and list characteristics of two types of disk drives and disks.

30. Explain what CD-ROM drives and disks are and discuss several CD-ROM applications.

31. Explain the function of backup.

chapter 6

32. Identify the features of a portable computer.

33. Identify the types of screens used for portable computers.

34. Discuss how to expand the capabilities of your portable computer.

35. Discuss the advantages of "docking" a portable computer to a full-sized computer.

36. Discuss the "tricks" a portable computer uses to conserve power.

37. Explain how a portable computer's CPU, storage, and memory differ from a full-sized computer's.

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chapter 7

38. Define what an operating system is and what it does.

39. Describe similarities and differences between entering
     commands using the MS-DOS command prompt and the MS-DOS
     Shell.

40. Describe six characteristics of the Microsoft Windows
     operating system.

41. Discuss the differences between MS-DOS, Windows , and
     OS/2.

chapter 8

42. Describe some of the common characteristics of word
     processing software.

43. Describe some of the common characteristics of
     spreadsheet software.

43. Describe some of the common characteristics of data base
     software.

44. Differentiate between the different types of databases.

45. List some common desktop publishing features.

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chapter 9

46. Define local area networks (LAN) and wide area networks
     (WAN).

47. Discuss how a computer is added to a network.

48. Identify the role of the "Network Administrator".

49. List and define some common network terms.

50. Identify the types of network layouts.

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V. Required Student Resources

1. Four Module textbooks by Maran Graphics:

   Computers Simplified

   WordPerfect Version 5.1 for DOS

   Lotus Release 2.3 for DOS

   MS-DOS 5.0 Simplified User Guide for Microsoft

Authored by: Richard and Ruth Maran
Published by: Prentice Hall Canada

2. At least five (5) 5.25" high density floppy disks.
3. At least five (5) 3.5" high density floppy disks.

additional qbasic textbooks (not required because of cost)

3. "Qbasic by Example"

   by Greg Perry, Que Publishing Co.

4. "Using_Qbasic" by Phil Feldman, Tom Rugg

   Que Publishing_Co.

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VI. Special Notes

1. Students with special needs are encouraged to discuss
    required accommodations confidentially with the
    instructor.

2. Your instructor reserves the right to modify the course
    as he/she deems necessary to meet the needs of students.

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The architectural, civil, and mechanical students will discover
that much of their required course work within their programs in
later semesters will require IBM PC microcomputer work. For this
group, historically, the most frequently used application program
other than Wordperfect or Autocad has been the Lotus 123
spreadsheet software. Thus, the use of the spreadsheet program
"QuattroPro", which is equivalent to Lotus 1-2-3", will be studied
in greater depth for these students.

The electrical, electronic, aviation students will also discover
that much of their required course work within their programs in
later semesters will assume the students have a basic familiarity
with computers. For this group, historically, the most frequently
used application program other than Wordperfect or Autocad has
been very specific software such as Mathcad, flight simulator, etc.
As a consequence qbasic software will be studied in greater depth
for these students.

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VII. Method(s) of Evaluation

1.   Tests

The student will be assessed through a series of three (3) written
tests. These tests will each be weighted to 20% of the final mark.
In all tests the testing concept is open book, using a computer,
perform some task previously demonstrated in an assignment. All
tests are designed to be completed in less than 1 hour.
Historically, students have waited longer for their turn to
demonstrate than running through the demonstration. If during
testing it seems the student/teacher will not be able to complete
the test, alternative arrangements will be made at that time. The
student may only take his/her assigned lab time to write any test,
unless prior approval is obtained.

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The tentative dates are for the lab periods during the week of:

test	date	concepts
Test 1	Oct 4 - 8/93	MS DOS, computer concepts
Test 2	Nov 8 - 12/93	Wordperfect 5.1 & QuattroPro
Test 3	Dec 20 - 24/93	Wordperfect, QuattroPro, MS DOS and possibly Qbasic

These test dates will be re-announced approximately one week in advance. Note: the measurement or evaluation of the student's performance during the practical or on-line portion of these tests will be a significant portion of the test mark. The ability is easily modify or alter the programs during the demonstration phase of the test will be a factor in the evaluation. Remember, it is expected that most testing can be completed inside class time, however, students may be asked to complete the test outside regularly scheduled class time.

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Re-writes of tests

A re-write for a failing student is possible only if certain conditions are met. The student must have a formal peer tutoring arrangement made and verified. If the peer tutor is a classmate then a 100% performance during the re-write will translate into a further bonus of 2% for the peer tutor. Maximum mark recordable for any re-write is 56%

2.   Quizzes

The student will be assessed through a series of unannounced quizzes. The total weight of these quizzes are not to exceed 10% of the final mark.

3.   Assignments

The student will be assessed through a series of lab assignments. Collectively these assignments will be weighted to 25% of the final mark.

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4. Participation/ Practical Demonstrations

The student will be assessed on his/her ability to answer questions about the lab assignment once submitted. The student's response to these lab demonstration questions will become a part of her/his "participation/practical demonstration" mark. There will be four monthly marks recorded (with each mark out of 5). The final mark will be weighted to reflect 5% for participation/ practical demonstrations.

5. Attendance bonus

the student attending more than 80% of the time will receive a bonus of 2%.

6.

Late assignments will be marked 5% off for every day late. After two weeks past the deadline, the late assignments may still be submitted but no mark will be recorded.

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Summary of Final Mark

1.   Tests   60%

2.   Quizzes   10%

3.   Assignments   25%

4.   Part./Prac.   5%

                    100%

5.   Attendance   2%   bonus only

Course Grading Scheme

A+   90+   outstanding achievement

A   80 - 89   above average achievement

B   70 - 79   average achievement

C   55 - 69   satisfactory achievement

U   unsatisfactory given at midterm only
S   satisfactory given at midterm only

R   repeat

X   a temporary grade that is limited to
                    instances where special circumstances
                    have   prevented   the   student   from
                    completing objectives by the end of
                    the semester. An "x" grade must have the
                    chairperson's approval and has a maximum
                    time limit of 120 days.

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3.   Upgrading of incompletes

When a student's course work is incomplete or final grade is below
55%, there is the possibility of upgrading to a pass when the
student's performance warrants it. Attendance and assignment
completion will have a bearing on whether upgrading will be
allowed. A "repeat" grade on all tests will remove the option of
any upgrading and an "r" grade will result. The highest on a re-
written test or assignment will be 56%.

       The method of upgrading is at the discretion of the teacher
and may consist of one or more of the following options:

              assigned make-up work

              re-doing projects

              re-doing of tests

              writing of comprehensive supplemental examination

              additional assignments

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VIII.   Additional Resource Materials (available in college bookstore, Audiovisual Center, and/or library)

There are many other books on basic programming, wordperfect, lotus 1-2-3, and MS DOS operating system.

1.   Sault college software support

                MS DOS notes

                wordperfect 5.1

                Advanced wordperfect 5.1

                Lotus notes

2.   Sault College bookstore sells the popular series:

                MS DOS For Dummies

                Wordperfect For Dummies

                Lotus 123 For Dummies

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3.   Video Tapes:

Six Part TVO Series: Bits and Bytes

Spreadsheets

Advanced Spreadsheet and Programming

Word Processing 1

Word Processing 2

Word Processing 3

Computer Applications/Software Introduction

Applications

Electronic Publishing

Periodicals: PC Mag, Byte Mag, Computing Canada

Computers in Education

Computers in Nursing