

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

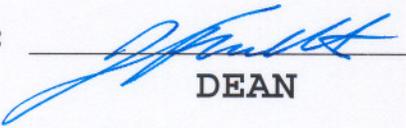
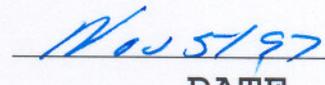
COURSE TITLE: Systems Management I

CODE NO.: CS0200 SEMESTER: 3

PROGRAM: COMPUTER ENGINEERING TECHNOLOGY/COMPUTER PROGRAMMER

AUTHOR: FRED CARELLA

DATE: AUG 1997 PREVIOUSLY DATED: AUG 1996

APPROVED:  DEAN  DATE

Length of Course: *15 weeks*

Prerequisites: *CSO 101* Total Credit Hours: 75

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**COURSE CODE****I. COURSE DESCRIPTION:**

This course is intended to provide a firm foundation in the management and use of operating systems. In particular, it continues the work done in CSO101 by using the Windows operating system from a systems management point of view and introduces the student to the UNIX operating system. The operating systems used will be Windows 95, Windows 3.1 and LINUX. It is the first of two courses in systems management which will develop the students ability to use and manage various operating systems.

**II. TOPICS TO BE COVERED:**

1. Introduction to Windows hardware environment.
2. Installing and setting up a Windows system.
3. Windows configuration issues.
4. Introduction to UNIX.
5. The UNIX file system.
6. UNIX command line tools and UNIX commands.

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### **III. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

#### **A. Learning Outcomes:**

	<b>Approx. % of Course Grade</b>
1. Discuss the hardware environment, resources, the Windows architecture and describe the Operating Systems role in their management.	10%
2. Install and setup the Windows operating system.	20%
3. Configure windows and install, configure and troubleshoot Windows and Windows applications.	25%
4. Understand the UNIX command line environment.	5%
5. Understand the UNIX file system and apply the UNIX commands necessary to manage files and directories.	20%
6. Understand and apply various UNIX commands and command line tools and understand and apply UNIX shells.	20%
	100%

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**COURSE CODE****B. Learning Outcomes and Elements of the Performance:**

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

1. Discuss the hardware environment, resources and the Windows architecture and describe the Operating Systems role in their management. **10%**

**Windows 3.1**

(Chap 1-5)

***Elements of the performance:***

- describe the PC memory architecture.
- optimise DOS for Windows.
- describe the Windows architecture, in particular:
  - the core.
  - the kernel.
  - device drivers and the driver layer.
  - standard and 386 enhanced mode.
- understand DOS and Windows file I/O.
- differentiate between 16 and 32 bit disk accesses and 32 bit file I/O from 32 bit disk accesses.

**Windows 95**

(Chapter 31 of Resource Kit)

***Elements of the performance:***

***- compare and contrast all of the following with windows 3.1***

- the Windows 95 architecture components
- the Windows 95 registry
- device drivers
- configuration manager
- virtual machine manager
- process scheduling and multitasking

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- memory paging
- support for MSDOS mode
- installable file systems
- file system drivers
- core system components (user, gdi, kernel)
- virtual memory management

2. Install and setup the Windows operating system. **20%**

(Chap 6-8 of Win 3.1 text)

(Chap 3, 4, 5, 6, 33, 35 of the Win 95 resource kit)

*Elements of the performance:*

- prepare a system for Windows installation. (Win 3.1 and 95)
- install Windows using Setup. (Win 3.1 and 95)
- customise setup. (Win 3.1 and 95)
- describe, locate and categorise files which make up the Windows operating system. (Win 3.1 and 95)
- understand the purpose of, identify, locate and modify Windows 3.1 initialisation (.INI) files.
- understand the purpose of, identify, locate and modify the Windows 95 registry
- understand and apply the understanding of the bootstrap process to troubleshooting windows startup problems.

3. Configure windows and install, configure and troubleshoot Windows and Windows applications. **25%**

**Windows 3.1**

(Chap 9-20, Appendix A & B)

*Elements of the performance:*

- configure the Windows environment via modification of the WIN.INI file.
- configure the Windows environment using the CONTROL PANEL.
- describe the purpose and the contents of the Program Manager, File Manager and Control Panel initialisation files (PROGMAN.INI, WINFILE.INI, CONTROL.INI).

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- configure the Program Manager, Control Panel and File Manager through modification of the appropriate .INI file.
- describe all and apply modifications to some of the following system components:
  - the Windows I/O model in real and enhanced mode
    - 32 bit disk access
    - DMA
    - caching
    - troubleshooting
  - peripherals including
    - disk controllers
    - video adapters
    - network adapters
  - video adapters
    - describe video attributes and how to modify them
  - keyboard and mouse characteristics.
  - printers and printer fonts.
  - raster, vector and True Type fonts.
  - COM ports, FAXES and modems.

**Windows 95**

(Chapter 22 of the Win95 Resource Kit)

***Elements of the performance:***

- describe and apply application support issues
- install applications (16 bit, 32 bit and DOS apps)
- run applications
- associate file types
- “killing” programs
- configure dos apps
- use OLE
- running TSR’s
- fix version errors
- troubleshoot applications

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4. Understand the UNIX command line environment.

(Chap 1, 2, 6)

**5%**

*Elements of the performance:*

- describe UNIX, LINUX and their history
- enter commands and view/select commands from the command line history
- apply command completion
- log on and off and change passwords

5. Understand the UNIX file system and apply the UNIX commands necessary to manage files and directories.

**20%**

(Chap 8, 9)

*Elements of the performance:*

- understand file names
- differentiate between different file types in particular:
  - ordinary files
  - directories
  - directories and physical disks
  - links
  - special files
  - file permissions
  - standard directory structures

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tools and understand and apply UNIX shells.

**20%**

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(Chap 6, 10, 11, 12, 13, 14, 15)

*Elements of the performance:*

- understand and apply pipes
- understand and apply I/O redirection
- understand and apply the following UNIX commands:
  - cd
  - ls
  - cp
  - mv
  - rm
  - mkdir
  - rmdir
  - man
  - more
  - less
  - clear
  - cat
  - ps
  - chown
  - chmod
  - chgrp
  - lpr
  - lpq
  - lprm
  - lpc
  - tar
  - pwd
- create and modify files using
  - “vi”
  - “joe”
  - “emacs”
- understand and apply UNIX shells
- differentiate between the different shells
- describe the logon environment
- understand and control processes
- understand and apply background processing
- describe and apply command ‘aliasing’
- write shell scripts
- customise the shell

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#### IV. EVALUATION METHODS:

The mark for this course will be arrived at as follows:

Tests:

outcomes #1, #2, #3	35%
outcome #4, #5, #6	30%

Assignments:

outcomes #1, #2, #3	20%
outcomes #4, #5, #6	<u>15%</u>
Total	100%

The following letter grades will be assigned in accordance with the School of Engineering Technology and the School of Business and Hospitality policies:

#### Course Grading Scheme

A+	90% - 100%	consistently outstanding achievement
A	80% - 89%	outstanding achievement
B	70% - 79%	consistently above average achievement
C	55% - 69%	satisfactory or acceptable achievement in all areas subject to assessment
R	less than 55%	repeat - the student has not achieved the objectives of the course and the course must be repeated
CR		Credit Exemption
S		satisfactory given at midterm only
U		unsatisfactory given at midterm only
X		a temporary grade

An 'X' grade is limited to instances where exceptional circumstances have prevented the student from completing objectives by the end of the semester. An "X" grade must be arranged before the deadline for grade submission and is granted at the discretion of the Professor. The 'X' grade must also have the Dean's approval and has a maximum time limit of 120 days.

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## V. SPECIAL NOTES

1. In order to pass this course the student must obtain an overall **test** average of 55% or better, as well as, an overall **assignment** average of 55%.
2. Assignments must be submitted by the due date according to the specifications of the instructor. Late assignments will normally be given a mark of zero. Late assignments will only be marked at the discretion of the instructor in cases where there were extenuating circumstances.
3. The instructor reserves the right to modify the assessment process to meet any changing needs of the class. Consultation with the class will be done prior to any changes.
4. The method of upgrading an incomplete grade is at the discretion of the instructor, and may consist of such things as make-up work, rewriting tests, and comprehensive examinations.
5. Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.
6. Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

## VI. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.

## VII. REQUIRED STUDENT RESOURCES

**Text:** Using LINUX, Special Edition  
QUE. Books

Windows 3.1 Configuration Secrets  
by Valda Hilley & James M. Blakely