

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

**COURSE TITLE:** Introduction to Operating Systems  
**CODE NO. :** CSO105 **SEMESTER:** One  
**PROGRAM:** Computer Studies (CET/CNT/CPA/CF/CET-AS)  
**AUTHOR:** Douglas McKinnon  
**DATE:** Aug 06 **PREVIOUS OUTLINE DATED:** Aug 05  
**APPROVED:**

	_____	_____
	<b>DEAN</b>	<b>DATE</b>

**TOTAL CREDITS:** 5  
**PREREQUISITE(S):** N/A  
**HOURS/WEEK:** 4

**Copyright ©2005 The Sault College of Applied Arts & Technology**  
*Reproduction of this document by any means, in whole or in part, without prior written permission of Sault College of Applied Arts & Technology is prohibited.*  
*For additional information, please contact Colin Kirkwood, Dean -*  
*School of Technology, Skilled Trades, Natural Resources & Business*  
*(705) 759-2554, Ext. 2688*

## I. COURSE DESCRIPTION:

This course will provide students with an introduction to:

- Sault College's Student Computing facilities including Internet and e-mail
- Fundamental computer Operating System concepts and methodologies
- Practical, hands-on interaction with implementations of Microsoft Windows using the Graphical User Interface (GUI) and Command Line Interfaces

The first section of this course is dedicated to familiarizing students with Sault College's computing infrastructure regarding: security and terms-of-use policies, login/logout procedures, disk storage access and quota. Internet and email usage is also covered providing students with rudimentary skills for topical research and effective communication.

The Operating System concepts section of this course will introduce students to the physical components of a computer system and how the operating system manages and coordinates all computing activity.

Using Microsoft Windows XP Professional you will explore and become familiar with components of, and interact with the Graphical User Interface (GUI). Students will also explore and become familiar with the Command Line interface, command syntax, individual commands, and ultimately batch file (command) execution.

***Important Note: Your main means of communication with your instructors outside of class time is via e-mail. You are expected to read your e-mail at least once per day, but strongly encouraged to read your e-mail several times per day. Test times and dates, helpful tips and arranging tutor times with instructors will be arranged via e-mail if it is not established during class time. If you are going to be late or miss a class, you are expected to advise your instructor via e-mail.***

### ***Attendance:***

***Absenteeism will affect a student's ability to succeed in this course. Attendance is encouraged because many things are discussed and learned that may not be specifically available in the textbook. Absences due to medical or other unavoidable circumstances should be communicated with your instructor in advance if possible.***

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

**1. Work with Sault College's Network and the Internet**Potential Elements of the Performance:

- Read and abide by Sault College's policy on computer usage
- Explore fundamental Internet concepts and protocols
- Work with Internet browser software application(s)
- Understand the purpose and components of URLs
- Identify common web sites and utilities
- Identify and use Search Engines effectively
- Learn e-mail etiquette
- Identify e-mail protocols
- Configure your mailbox including mail server entries
- Send, receive, reply, forward and copy e-mail
- Send, receive, forward and copy e-mail attachments
- Apply CC and BCC e-mail addressing
- Understand the purpose of a listserv
- Understand the purpose of and organize e-mail folders
- Understand fundamental concepts related to Internet telecommunications

**2. Define and apply Operating System theories and concepts**Potential Elements of the Performance:

- Learn the component pieces of a computer system and the operating system's relevant roles and responsibilities
- Learn how operating systems are classified based on the number of users and tasks that execute simultaneously
- Learn the significance of the binary representation of bits, bytes, and words.
- Understand the significance of the ascii, ebcdic, and Unicode character set representation.
- Learn the concepts of kernel, shell, process, program execution, input / output operations, communications, error detection, and memory management
- Explore the fundamentals of secondary storage covering: disks, sectors, tracks, cylinders, platters, partitions, the master boot record, and the boot process.

### 3. Utilize Microsoft Windows XP Professional

#### Potential Elements of the Performance:

- Study the history of Windows operating systems
- Identify and utilize Windows desktop components
- Identify the component parts of a Window and their purpose
- Understand the significance of the Start button and menu
- Utilize the on-line Help features availed by the GUI
- Identify and apply proper shutdown and log-off procedures
- Create shortcuts on the desktop
- Understand Windows file naming conventions
- Effective use of various dialogue techniques
- Differentiate between various file types: system, data and executable
- Understand the purpose of, utilization, and manipulation of folders (or directories), sub-folders or sub-directories; relative and explicit paths
- Copy, move, edit and delete files using My Computer, Windows Explorer; and cut, copy, paste techniques
- Understand and implement effective use of the Recycle Bin.
- Understand, view, and modify file and folder attributes
- Identify and utilize available disk drives
- Identify and differentiate between various filesystems used by Windows - FAT and NTFS
- Understand the theory and purpose of formatting a disk.
- Differentiate between system, non-system, and recovery disks
- Develop effective use of Windows Search capabilities
- Develop contextual awareness of the purpose of the Windows Registry
- Develop awareness for the purpose of a Restore Point
- Develop awareness of Windows memory allocation and utilization
- Differentiate between Internal and External commands, and the concept of Path to locate external commands
- Understand the concept of Multi-tasking in Windows
- Determine how to access the Command Line interface

4. **Develop and implement Windows/DOS commands and batch files, understanding of the command execution environment.**

Potential Elements of the Performance:

- Develop knowledge of how to interact with the Command Line Interface
- Utilize the on-line Help features availed from the command line
- Develop understanding, interpretation of Windows/DOS command syntax using a syntax map
- Understand how to invoke command execution
- Differentiate between executable commands, programs and batch files
- Discuss the theory and methodology which Windows/DOS follows when executing commands and/or programs
- Understand how to create, store, retrieve and edit batch files
- Develop understanding and effective utilization of command parameters.
- Develop understanding and effective utilization of environment variables using the set command
- Understand the purpose and effective deployment of batch file commands: cls, rem, echo, pause, call, if, goto, shift, for, choice
- Illustrate effective use of command wildcard syntax and processing
- Differentiate between various file types: directories, system, data and executable scripts
- Understand the purpose of and utilization of directories, sub-directories and directory paths
- Differentiate between relative and explicit directory paths and associated syntax
- Copy, move, and delete files and directories using the command line
- Understand, view, and modify file permissions
- Identify and use available disk drives
- Understand the purpose of the Path command and variable
- Discuss and be able to use the following: pipes, filters; and features: redirection, more, sort, and find in DOS batch files
- Understand the purpose of the Windows Scripting Host

**III. TOPICS:**

1. Work with Sault College's Network and the Internet
2. Operating System theories and concepts
3. Utilize Microsoft Windows XP Professional

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:****Textbook:**

**Title: Operating Systems - A Systematic Overview - 6<sup>th</sup> Edition**

**Authors: William S. Davis & T.M. Rajkumar**

**Publisher: Pearson/Addison - Wesley**

**ISBN: 0-321-26751-6**

**Study Guide: (available free on-line)**

- **Minimum of 5 - 3.5" Floppy diskettes**
- **Additional reference material will be made available to students**
- **Students are expected to utilize available research modes such as: Internet, Library and topical papers**

**V. EVALUATION PROCESS/GRADING SYSTEM:**

3 WRITTEN TESTS	50%
LAB AND TAKE-HOME ASSIGNMENTS	30%
2 LAB PRACTICAL TESTS	20%

QUIZZES MAY BE ASSIGNED RANDOMLY, without advance notification, and factored into The Evaluation/Grading system.

Late or missed assignments, quizzes, and/or tests are subject to a ZERO grade unless PRIOR consent is granted by the Instructor.

The Instructor reserves the right to apply a grading penalty to late assignments. Penalty amount will be determined by the Instructor.

The percentages shown above may vary slightly if circumstances warrant. The Professor reserves the right to adjust a student's grade up or down 5% based on attendance, participation, leadership, creativity, work ethic, and/or whether there is an improving trend in any or all of these areas.

The following semester grades will be assigned to students in postsecondary courses:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 - 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course	

without academic penalty.

### **UPGRADING OF INCOMPLETES:**

When a student's course work is incomplete or final grade is below 50%, it is possible to upgrade to a pass when a student meets all of the following criteria:

1. The student's attendance has been satisfactory.
2. An overall average of at least 40% has been achieved.
3. The student has not failed all of the theory tests taken.
4. The student has made reasonable efforts to participate in class and complete assignments.

The instructor will ultimately determine student eligibility and the nature of the upgrading requirements. Upgrading requirements may involve one or more of the following: completion of existing labs and assignments, completion of additional assignments, re-testing on individual parts of the course or a comprehensive test on the entire course.

### **VI. SPECIAL NOTES:**

#### Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1103 or call Extension 2703 so that support services can be arranged for you.

#### Retention of course outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

#### Plagiarism:

Students should refer to the definition of "academic dishonesty" in *Student Rights and Responsibilities*. Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.



Course outline amendments:

The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

**VIII. DIRECT CREDIT TRANSFERS:**

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.