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:** 10F

PROGRAM: Computer Studies (CNT/CPA/CF)

AUTHOR: Douglas McKinnon / Cindy Trainor

DATE:	01-Jun-2009	**PREVIOUS OUTLINE DATED:**	01-Jun-2008

APPROVED: "B. Punch:

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                         CHAIR   **DATE**

TOTAL CREDITS: 5

PREREQUISITE(S): None

HOURS/WEEK: 4

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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
- File Transfer Protocol (FTP) from a Graphical User Interface(GUI) and Command Line Interface (CLI) perspective
- 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.

Students will use Microsoft Windows XP Professional in the GUI and CLI environment. In the CLI environment, students will explore and become familiar with the Command Line Interface, command syntax, individual commands, and ultimately batch file (command) execution.

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
      - Work with File Transfer Protocol in the GUI and CLI environment
      - 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

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- 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

III.   TOPICS:

1. **Work with Sault College's Network and the Internet**
2. **Define and apply Operating System theories and concepts**
3. **Utilize Microsoft Windows XP Professional**
4. **Develop and implement Windows/DOS commands and batch files, understanding of the command execution environment.**

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:
USB 2.0, IDE External Hard Drive Enclosure with Hard Drive
Or
USB 2.0 to Hard Drive Adapter and Hard Drive, at least 20 GB in capacity

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, <u>without advance notification</u>, 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.

Absenteeism will affect a student's ability to succeed in this course. Absences due to medical or other unavoidable circumstances should be discussed with the professor. Students are required to be in class on time and attendance will be taken within the first five minutes of class. A missed class will result in a penalty in your marks unless you have discussed your absence with the professor as described above. The penalty depends on course hours and will be applied as follows:

Course Hours   Deduction
5 hrs/week (75 hrs) 1% / hr
4 hrs/week (60 hrs) 1.5% /hr
3 hrs/week (45 hrs) 2% /hr
2 hrs/week (30 hrs) 3% /hr

Absentee reports will be discussed with each student during regular meetings with Faculty Mentors. Final penalties will be reviewed by the professor and will be at the discretion of the professor
The following semester grades will be assigned to students:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
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.

VI.   SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers will not be granted admission to the room.*

VII.   COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.