SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: Local Area Networks I

CODE NO. : CSN100   **SEMESTER:** Three

PROGRAMS: All Computer Studies Programs

AUTHORS: Dan Kachur

DATE: Jan, 2008   **PREVIOUS OUTLINE DATED:** Jun, 2007

APPROVED:

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                         CHAIR   **DATE**

TOTAL CREDITS: 6

PREREQUISITE(S): CSO105

HOURS/WEEK: 4

I.   COURSE DESCRIPTION:

Students will be introduced to Network Operating Systems including current implementations and future trends in the workplace.   Developing practical skills in LAN installation, administration, and troubleshooting are important objectives of this course.   Microsoft Windows 2000 Server will be the primary learning tool used.

In this course, students will install and maintain their own Windows 2000 Server.   Once the server is operational, students will learn to lockdown their environment by implementing practical security techniques including the installation of a firewall, anti-virus and relevant software updates. Students will have the opportunity to perform Network Administration and implement Permissions, Policies and Profiles.

DHCP, WINS, DNS and Printing services are also key activities to be covered in this course.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1.   **Introduction To Network Operating Systems**
     Potential Elements of the Performance:

     This learning outcome will constitute approximately 5% of the course.

     - Learn the structure of a Network Operating System environment
     - Identify the major Network Operating Systems in the workplace
     - Learn the history of each Network Operating System
     - Compare certifications of each Network Operating System
     - Compare pricing, support, and past / current / future market share
     - Contrast the difference between a Peer-Lan and Client / Server
     - Learn Domain modeling with introduction to PDC, BDC, Stand-Alone, Active Directory, and NDS
     - Configure a Peer-LAN environment using your Windows Desktop system.

2. **Install and configure Windows 2000 Server**
    Potential Elements of the Performance:

    This learning outcome will constitute approximately 5% of the course.

    - Partition your drive
    - Identify the startup location and executable file for the 2000 Server install
    - Differentiate between Standalone, Member Server or Domain Controller
    - Install Windows 2000 Server on a specified partition
    - Login to 2000 Server and create a backup account
    - Configure TCP/IP to access the network and Internet
    - Lockdown Windows 2000 Server using a Firewall, Anti-Virus and patch update software.
    - Create an emergency repair disk (ERD)
    - Explore Share Level Permissions
    - Contrast NTFS vs FAT in a Windows 2000 Server environment

3. **Administer Windows 2000 Server Users / Groups**
    Potential Elements of the Performance:

    This learning outcome will constitute approximately 10% of the course.

    - Explore the 'Computer Management' tool
    - Learn about Active Directory in preparation for an AD install
    - Install Active Directory
    - Work with 'Active Directory Users and Computers' tool
    - Login to 2000 Server from a Windows desktop computer

4. **Administer Windows 2000 Server Files / Folders (NTFS Mode)**
    Potential Elements of the Performance:

    This learning outcome will constitute approximately 15% of the course.

    - Implement and set Shares for 2000 Server
    - Explore and compare File / Directory permissions of NTFS
    - Identify and implement Directory Permissions
    - Identify and implement File Permissions
    - Apply and test File Permissions over Directory Permissions in conjunction with Shares

5. **Implement Account and Policies and Profiles for Windows 2000 Server**
    <u>Potential Elements of the Performance</u>:

    This learning outcome will constitute approximately 15% of the course.

    - Compare Policies VS Profiles
    - Install Local and Group policies
    - Work with the Window 2000 Server Registry
    - Create Local and Roaming profiles
    - Differentiate between Local and Roaming profiles
    - Understand the flow of Roaming profiles

6. **Manage Printing Services in a Network Environment**
    <u>Potential Elements of the Performance</u>:

    This learning outcome will constitute approximately 5% of the course.

    - Install, configure and secure Printing Services for 2000 Server
    - Test printing services for both Server and Client

7. **Perform Remote Administration from a Windows Client**
    <u>Potential Elements of the Performance</u>:

    This learning outcome will constitute approximately 5% of the course.

    - Install remote client services on your desktop system
    - Explore alternative remote-access tools using your Windows client system

8. **Create Backup Strategies and Disaster Recovery Plans**
    <u>Potential Elements of the Performance</u>:

    This learning outcome will constitute approximately 5% of the course.

    - Learn various backup methods and schedules
    - Perform Volume backups
    - Research the latest in Storage Area Networks
    - Learn about off-site backup and restore strategies

9. **Install and Configure DHCP, WINS, and DNS Servers on a Windows 2000 Server**
   Potential Elements of the Performance:

   This learning outcome will constitute approximately 20% of the course.

   - Install and configure a DHCP Server for 2000 Server
   - Create a DHCP Scope
   - Test DHCP from a client
   - Install and configure a WINS database
   - Perform WINS testing
   - Install a DNS Server
   - Configure a zone, then create A and Cname records for DNS
   - Test DNS

III. TOPICS:

1. Installation of Network Operating Systems
2. Administration of Local Area Networks
3. Customization of Client / Server configurations
4. Installation and maintenance of Network Printing
5. Disaster Recovery Planning
6. TCP/IP Services in a LAN

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Title: Windows 2000 Server Certification Edition
Author: Palmer, Kammerling, Marky, Stewart
Publisher: Thomson
ISBN: 0-619-18683-6

V. EVALUATION PROCESS/GRADING SYSTEM:

3 WRITTEN TESTS (15% each)	45%
LAB ASSIGNMENTS	35%
RANDOM QUIZZES	10%
ATTENDANCE	10%

(The percentages shown above may vary slightly if circumstances warrant.)

The following semester grades will be assigned to students:

Local Area Networks I   CSN100

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.

UPGRADING OF INCOMPLETES

When a student's course work is incomplete or final grade is below 50%, there is the possibility of upgrading 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 45% has been achieved.
3. The student has not had a failing grade in all of the theory tests taken.
4. The student has made reasonable efforts to participate in class and complete assignments.

The nature of the upgrading requirements will be determined by the instructor and 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 professor and/or the Special Needs office. Visit Room E1101 or call Extension 2493 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.

Communication:
The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

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.