SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: NETWORK CERTIFICATION I

Code No.: CSN3030 **Semester:** 5

Program: COMPUTER NETWORK TECHNOLOGY

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Date: June , 2002 **Previous Outline Date:** August, 2000

Approved: _____ _____
                        Dean   **Date**

Total Credits: 6
Prerequisite: CSN2030
Length of Course: 15 weeks **Total Credit Hours:** 90

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I. COURSE DESCRIPTION:

This course begins the preparation for certification in a networking area of specialisation. At the present time the courses and exams identified as the Microsoft™ Certified Systems Engineer (MCSE) requirements will be the basis for this course and two subsequent courses. Lectures on the important topics will be provided with lab activities designed to develop hands-on skills. Students will use available resources, MCSE exam preparation guides, sample tests and hands-on lab activities to prepare for the specific objectives as published by Microsoft™. The chosen track for this course will be the Microsoft Windows 2000 Server curriculum.

Rationale:

The MCSE curriculum is extensive and beyond the domain of a single course. Two additional Network Certification courses in 6th semester will further the students progress towards certification.

This course in itself does not result in MCSE certification; formal exams must subsequently be taken at a Sylvan Prometric™ Testing Centre at the student's own expense.

Current Windows 2000 MCSE Requirements:
Candidates must pass 5 core exams and two elective exams. The core exams require candidates to prove their expertise with desktop, server and networking components. The complete requirements are published at http://www.microsoft.com/trainingandservices/.

These specific requirements are subject to change; the four core operating systems exams are presently as follows:
- Exam 70-210: Installing, configuring and Administering Microsoft® Windows® 2000 Professional
- Exam 70-215: Installing, Configuring, and Administering Microsoft® Windows® 2000 Server
- Exam 70-216: Implementing and Administering a Microsoft® Windows® 2000 Network Infrastructure
- Exam 70-217: Implementing and Administering a Microsoft® Windows® 2000 Directory Services Infrastructure

Plus one of the following core exams:

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- Exam 70-219: Designing a Microsoft® Windows® 2000 Directory Services Infrastructure
- Exam 70-220: Designing Security for a Microsoft® Windows® 2000 Network
- Exam 70-221: Designing a Microsoft® Windows® 2000 Network Infrastructure

Plus any two of the following elective exams:

- Exam 70-219: Designing a Microsoft® Windows® 2000 Directory Services Infrastructure
- Exam 70-220: Designing Security for a Microsoft® Windows® 2000 Network
- Exam 70-221: Designing a Microsoft® Windows® 2000 Network Infrastructure
- Exam 70-222: Migrating from Microsoft® Windows NT® 4.0 to Microsoft® Windows® 2000

The exam prepared for in this course is:

Exam 70-215: Installing, Configuring, and Administering Microsoft® Windows® 2000 Server

Skills Being Measured

This certification exam measures the ability to implement, administer, and troubleshoot information systems that incorporate Microsoft® Windows® 2000 Server.

Before taking the exam, you should be proficient in the job skills listed below.

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

A.   **Learning Outcomes:**

1.   **Install Windows 2000 Server**

2.   **Install, Configure, and Troubleshoot Access to Resources**

3.   **Configure and Troubleshoot Hardware Devices and Drivers**

4.   **Manage, Monitor, and Optimize System Performance, Reliability, and Availability**

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     5.   **Manage, Configure, and Troubleshoot Storage Use**

     6.   **Configure and Troubleshoot Windows 2000 Network Connections**

     7.   **Implement, Monitor, and Troubleshoot Security**

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

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

1.   **Install Windows 2000 Server**

     Elements of the Performance:

- Perform an attended installation of Windows 2000 Server.
  - Perform an unattended installation of Windows 2000 Server.
  - Create unattended answer files by using Setup Manager to automate the installation of Windows 2000 Server.
- Create and configure automated methods for installation of Windows 2000.
- Upgrade a server from Microsoft Windows NT 4.0.
- Deploy service packs.
- Troubleshoot failed installations.

2.   **Install, Configure, and Troubleshoot Access to Resources**

     Elements of the Performance:

- Install and configure network services for interoperability.
- Monitor, configure, troubleshoot, and control access to printers.
- Monitor, configure, troubleshoot, and control access to files, folders, and shared folders.
  - Configure, manage, and troubleshoot a stand-alone Distributed file system (Dfs).
  - Configure, manage, and troubleshoot a domain-based Distributed file system (Dfs).
  - Monitor, configure, troubleshoot, and control local security on files and folders.
  - Monitor, configure, troubleshoot, and control access to files and folders in a shared folder.
  - Monitor, configure, troubleshoot, and control access to files and folders via Web services.
- Monitor, configure, troubleshoot, and control access to Web sites.

3.   **Configure and Troubleshoot Hardware Devices and Drivers**

          Elements of the Performance:

   • Configure hardware devices.
   • Configure driver signing options.
   • Update device drivers.
   • Troubleshoot problems with hardware.

4.   **Manage, Monitor, and Optimize System Performance, Reliability, and Availability**

          Elements of the Performance:

   • Monitor and optimize usage of system resources.
   • Manage processes.
        • Set priorities and start and stop processes.
   • Optimize disk performance.
   • Manage and optimize availability of System State data and user data.
   • Recover System State data and user data.
        • Recover System State data by using Windows Backup.
        • Troubleshoot system restoration by starting in safe mode.
        • Recover System State data by using the Recovery Console.

5.   **Manage, Configure, and Troubleshoot Storage Use**

          Elements of the Performance:

   • Monitor, configure, and troubleshoot disks and volumes.
   • Configure data compression.
   • Monitor and configure disk quotas.
   • Recover from disk failures.

6.   **Configure and Troubleshoot Windows 2000 Network Connections**

          Elements of the Performance:

   • Install, configure, and troubleshoot shared access.
   • Install, configure, and troubleshoot a virtual private network (VPN).
   • Install, configure, and troubleshoot network protocols.
   • Install and configure network services.
   • Configure, monitor, and troubleshoot remote access.
        • Configure inbound connections.

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- Create a remote access policy.
- Configure a remote access profile.
- Install, configure, monitor, and troubleshoot Terminal Services.
  - Remotely administer servers by using Terminal Services.
  - Configure Terminal Services for application sharing.
  - Configure applications for use with Terminal Services.
- Install, configure, and troubleshoot network adapters and drivers.

7.   **Implement, Monitor, and Troubleshoot Security**

       Elements of the Performance:

- Encrypt data on a hard disk by using Encrypting File System (EFS).
- Implement, configure, manage, and troubleshoot policies in a Windows 2000 environment.
  - Implement, configure, manage, and troubleshoot Local Policy in a Windows 2000 environment.
  - Implement, configure, manage, and troubleshoot System Policy in a Windows 2000 environment.
- Implement, configure, manage, and troubleshoot auditing.
- Implement, configure, manage, and troubleshoot local accounts.
- Implement, configure, manage, and troubleshoot Account Policy.
- Implement, configure, manage, and troubleshoot security by using the Security Configuration Tool Set.

III.   **TOPICS TO BE COVERED:**

1.   Planning for Windows 2000 deployment

2.   Active Directory

3.   Server Installation

4.   Server configuration, account management and security

5.   Managing Dfs, quotas and software installation

6.   Install and manage printers

7.   Remote Access and VPNs

8.   Network Monitoring, tuning and troubleshooting

IV.   REQUIRED STUDENT RESOURCES/TEXTS:

Students will be required to purchase a Microsoft Certified Professional
Approved Study Guide, specifically

"MCSE Guide to Microsoft® Windows® 2000 Server", by Michael J. Palmer.
(Thomson Learning, ISBN 0-619-01517-9)

V.   EVALUATION PROCESS/GRADING SYSTEM:

Students will be given on-line tests similar to the actual MCSE exams. The final
marks will be based on a weighted-average of the tests taken; with the final test
having the highest weight.   There will be a minimum of two on-line tests

Weekly quizzes and projects	50%
Attendance	10%
On-line Windows 2000 Server Tests	40%

Note: This evaluation scheme is subject to change if circumstances warrant. Any
changes will be discussed with students and reported in writing before
implementation.

GRADING SYSTEM

A+	90	-	100%
A	80	-	89%
B	70	-	79%
C	60	-	69%
R	Repeat		Less than 60%
X	Incomplete		

UPGRADING OF INCOMPLETES

When a student's course work is incomplete or final grade is below 60%, 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 50% has been achieved by semester's end on
       the tests taken.

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3.   The student has made reasonable efforts to participate in class and maintain
       the recommended schedule for assigned activities.

The nature of the upgrading requirements will be determined by the instructor
and may involve re-testing and/or additional lab assignments

ATTENDANCE:
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
instructor. There will be a 1% penalty for each class missed in this course (up to
a maximum of 10%).

VI.   SPECIAL NOTES:

- **Special Needs**
  Students with special needs (e.g. physical limitations, visual or hearing
  impairments, or learning disabilities) are encouraged to discuss any required
  accommodations confidentially with the instructor and/or contact the Special
  Needs Office so that support services can be arranged.

- **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 post-secondary institutions.

- **Course Modifications**
  Your instructor reserves the right to make reasonable modifications to the course
  as deemed necessary to meet the needs of students or take advantage of new or
  different learning opportunities.

VII.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced standing in the course should consult
the instructor. If a student has already achieved MCSE certification in the exam
this course is based on, credit may be granted upon proof of certification being
demonstrated.

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 to the course in question.