

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



COURSE OUTLINE

Course Title: NETWORK CERTIFICATION I

Code No.: CSN303 Semester: 5

Program: COMPUTER NETWORK TECHNOLOGY

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Date: August, 2003 Previous Outline Date: June, 2002

Approved: _____
Dean Date

Total Credits: 6

Prerequisite: CSN203

Hours/Week: 6

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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:

- 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**

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.

- 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 Certification Edition”, by Palmer, Kammerling, Marky and Stewart (Thomson Learning, ISBN 0-619-18683-6)

V. EVALUATION PROCESS/GRADING SYSTEM:

Chapter quizzes and lab projects	50%
On-line exams (2) @ 15%	30%
Final Written Exam	20%

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

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%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
F (Fail)	59% 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 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.
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 2-hour class missed in this course (up to a maximum of 10%).

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 E1204 or call Extension 493 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.