



## I. COURSE DESCRIPTION:

This course continues the preparation for certification in a networking area of specialization. At the present time the courses and exams identified as the Microsoft™ Certified IT Professional (MCITP) requirements will be the basis for this course and one previous course (CSN210 – Network Certification I). The curriculum delivered in this course will help students prepare for Microsoft's 70-642 exam, which is titled **Windows Server 2008 Network Infrastructure, Configuring**. Lectures on the important topics will be provided with lab activities designed to develop hands-on skills. Students will use available resources, MCITP 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 2008 Server curriculum.

### **Rationale:**

Windows Server 2008 is generating demand all over the world for skilled IT professionals who can support this new Windows Server operating system. IDC, a global analyst firm, estimates that there will be more than 3.5 million deployments of Windows Server 2008 in its first year.

### **Demonstrating in-depth technology skills: MCITP**

The Microsoft Certified IT Professional (MCITP) credential is the leading certification for Windows Server 2008, providing widely recognized, objective validation of your ability to perform critical, current IT job roles by using Microsoft technologies to their best advantage.

The building blocks of the Windows Server 2008 MCITP certification are Microsoft Certified Technology Specialist (MCTS) pre-requisites certifications designed to validate your skills on the features and functionality of key technology areas in Windows Server 2008, leading to the MCITP Certification.

### **Earn an MCITP: Server Administrator certification to demonstrate your leadership and problem-solving skills in working with Windows Server 2008.**

Server administrators are recognized among their peers and managers as leaders in the daily operations management of Windows Server 2008. Demonstrate and communicate your ability to administer Windows Server 2008 systems and increase your organization's return on technology investment by earning the MCITP: Server Administrator certification.

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

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

### 1. **Install and Configure Network Protocols**

#### Potential Elements of the Performance:

- Install and configure TCP/IP
- Configure IPv4 and IPv6 addressing
- Configure network bindings
- Configure TCP/IP packet filters
- Configure and troubleshoot network protocol security
- Manage and monitor network traffic
- Enable IPsec
- Configure IPsec for transport mode and tunnel mode
- Configure IPsec Authentication Header (AH)
- Configure IPsec Encapsulating Protocol (ESP)
- Customize IPsec policies and rules
- Establish Static Routing tables
- Work with Routing Internet Protocol (RIP)

### 2. **Install, Configure and Manage a DNS Server**

#### Potential Elements of the Performance:

- Install the DNS Server service
- Configure a root name server, zones and a caching-only server
- Configure a DNS client
- Add "A" and "cname" records
- Configure zones for dynamic updates
- Test for dynamic DNS via Client logins
- Implement a delegated zone for DNS
- Manually create DNS resource records
- Manage and monitor DNS

### 3. **Install, Configure and Manage a DHCP Server**

#### Potential Elements of the Performance:

- Install the DHCP Server service
- Create and manage DHCP scopes, superscopes, and multicast scopes
- Configure DHCP for DNS integration
- Authorize a DHCP server in Active Directory™
- Manage and monitor DHCP
- Perform DHCP Relay

**4. Configure, Manage and Troubleshoot Remote Access Services**Potential Elements of the Performance:

- Configure inbound connections
- Create a remote access policy
- Configure a remote access profile
- Configure a virtual private network (VPN)
- Configure Routing and Remote Access for DHCP Integration
- Manage and monitor remote access
- Configure remote access security and authentication and encryption protocols
- Create and implement remote access policies
- Configure NAT properties and interfaces
- Install Internet Connection Sharing
- Establish Network Access Protection including DHCP and VPN enforcement
- Configure Network Authentication for Kerberos, 802.1x and RAS using MS-Chap, Ms-Chap2 and EAP

**5. Install and Configure Name Resolution**Potential Elements of the Performance:

- Learn and test the 5 step name resolution process for both DNS and WINS
- Configure a “hosts” file for Host Name Resolution
- Create an “lmhosts” file for NetBios name resolution

**6. Install and Configure Wireless Access Points**Potential Elements of the Performance:

- Set Service ID (SSID)
- Enable Wired Equivalent Privacy (WEP)
- Enable Wi-Fi Protected Access (WAP) and (WAP2)
- Contrast Ad Hoc vs infrastructure mode
- Test Network Wireless Security

7. **Install and Configure Distributed File Systems**
  - Install and configure a Root DFS (Distributed File System)
  - Using 2 Domain Controllers, install and configure a Domain-Based DFS ( Distributed File System )
  - Perform DFS replication

### III. TOPICS:

1. **Network Protocols**
2. **DNS ( Domain Name Service )**
3. **DHCP ( Dynamic Host Configuration Protocol )**
4. **RAS ( Remote Access Service )**
5. **Name Resolution**
6. **Wireless Access Points**
7. **DFS ( Distributed File Systems )**

### IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Textbook: ***MCTS Guide to Microsoft Windows Server 2008  
Network Infrastructure Configuration***

ISBN: 1-4329-0236-X

Author: Michael Bender

Publisher: Course Technology

### V. EVALUATION PROCESS/GRADING SYSTEM:

|                              |      |
|------------------------------|------|
| Tests ( 3 @ 15% each )       | 45 % |
| LMS Quizzes                  | 20 % |
| Participation and Attendance | 10 % |
| Lab Assignments              | 25 % |

**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:

| <u>Grade</u> | <u>Definition</u>  | <u>Grade Point Equivalent</u> |
|--------------|--|-------------------------------|
| A+           | 90 – 100%  | 4.00                          |
| A            | 80 – 89%   | 3.00                          |
| B            | 70 - 79%   | 2.00                          |
| C            | 60 - 69%   | 1.00                          |
| D            | 50 – 59%   | 0.00                          |
| F (Fail)     | 49% and below  |                               |
| 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:

### 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.

### 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.

### Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

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

### Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

### 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 Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. 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.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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 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:

| <b>Course Hours</b> | <b>Deduction</b> |
|---------------------|------------------|
| 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.

Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of November will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default.

Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.

Contact Information:

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