SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	**NETWORK SERVICE AND SUPPORT**		
CODE NO. :	**CSN302**	**SEMESTER:**	**5**
PROGRAM:	**COMPUTER NETWORK TECHNOLOGY**		
AUTHOR:	**TYCHO BLACK**		
DATE:	**AUGUST 2004**	**PREVIOUS OUTLINE DATED:**	**AUG, 2003**
APPROVED:			
	_____		_____
	DEAN		**DATE**
TOTAL CREDITS:	**6**		
PREREQUISITE(S):	**CSN203**		
HOURS/WEEK:	**5**		

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For additional information, please contact Colin Kirkwood, Dean
School of Technology, Skilled Trades & Natural Resources
(705) 759-2554, Ext. 688

I. COURSE DESCRIPTION:

This course focuses on the service and support role of a network technologist, applying knowledge learned in this and previous courses to actual problems and issues faced in real networks. Through lectures, hands-on activities in the lab and case studies the goal is to develop skills that will enhance the technologist's ability to maintain and improve networks and their resources. In addition to the technical issues associated with failure modes, performance issues, upgrades and network design, the human side of customer support will be emphasized. As a representative new technology, wireless LANs will be a major component of this course.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Troubleshoot common problems in Windows 2000 networks.

Potential Elements of the Performance:

1. Utilise web-based and other resources such as FAQ files, newsgroups, vendor-based resources, resource kits, help files, etc. to facilitate solutions to network-related problems.
2. Discuss and present case histories of network-related problems.
3. Provide customer service in a professional, effective manner employing appropriate behaviours.
4. Employ appropriate software and license management practices and maintain effective records of resources
5. Troubleshoot common problems in a Windows 2000 / Active Directory environment using available resources.

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

2. Recommend and implement efficient, cost-effective installation, maintenance and upgrade paths for networks.

Potential Elements of the Performance:

1. Use network documentation or drawing utilities to document network resources.
2. Recommend viable upgrade paths for various LANs, WANs and Enterprise networks.

3. Upgrade a Windows 2000 server to a Windows Server 2003 environment and configure and manage its resources effectively.
4. Install and manage Windows 2000 Active Directory.
5. Perform unattended installations of Windows 2000 Professional and/or Server.
6. Perform Client software evaluation, installation and support utilising efficient techniques.
7. Investigate disk imaging techniques and best practices for deploying software and operating systems.

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

3. Implement Wireless LAN technology in a variety of environments.

Potential Elements of the Performance:

1. Understand the fundamentals of wireless LAN (WLAN) media, technologies, components, challenges and issues.
2. Describe the 802.11 standards.
3. Understand, configure and test wireless NICs and associated WLAN devices.
4. Understand the radio technology, modulation and transmission techniques used in WLANs.
5. Describe wireless topologies.
6. Configure and install Cisco Aironet wireless adapters, access points and associated client software.
7. Understand and configure wireless bridges.
8. Identify the types of antennas, describe their operation and installation.
9. Discuss and configure WLAN security.
10. Discuss WLAN design and perform a site survey.
11. Troubleshoot, manage and monitor WLANs.

This learning outcome will constitute approximately 70 % of the course.

III. TOPICS:

1. Best practices for installing and maintaining network services in a Windows 2000/Windows 2003 Server /Active Directory environment.

2. Upgrade options for typical LAN and WAN environments.

3. Wireless networks.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

TEXT BOOK:

- "Fundamentals of Wireless LANs Companion Guide", Cisco Press, 2004

REFERENCES:

- "MCSE Guide to Microsoft Windows 2000 Server" by Michael J. Palmer, Thompson Learning, 2000.

V. EVALUATION PROCESS/GRADING SYSTEM:

2 Tests	40%
Quizzes	20%
Lab assignments/presentations	40%

(Up to 10% penalty for absenteeism. The percentages shown above may vary if circumstances warrant.)

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.

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 good.
2. The student's accumulated grade in the course to date is not less than 40%.
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.

LAB ASSIGNMENTS
Required lab report requirements will be detailed before labs are assigned. Late penalties will be applied to assignments not handed in by the due date.

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. In cases of repeated absence from class, a penalty of up to 10% of the final grade may be assessed.

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 E1101 or call Extension 703 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.
While it is expected that students discuss assignments with each other and share ideas, it is not acceptable that students hand in work done by someone else and claim it as their own. Plagiarism on assignments will result in a zero grade being assigned for that assignment for everyone involved.

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.