SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

SAULT COLLEGE

COURSE OUTLINE

COURSE TITLE:	A+ Certification II		
CODE NO. :	CST205	**SEMESTER:**	10F
PROGRAM:	Computer Network Technology		
AUTHOR:	Cindy Trainor		
DATE:	01-Jun-2010	**PREVIOUS OUTLINE DATED:**	01-Jun-2009
APPROVED:		"B. Punch"	

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                          CHAIR   **DATE**

TOTAL CREDITS: 5

PREREQUISITE(S): CST102

HOURS/WEEK: 4

A+ Certification II   CST205

I.   COURSE DESCRIPTION:

This course completes preparation for the CompTIA A+ certification. The advanced concepts of computer hardware and software will be presented. Upon completion of this course; students will be able to successfully upgrade a computer system, install various peripherals, troubleshoot using system tools/ diagnostic software. Laptops, portable devices, wireless connectivity, security, safety and environmental concerns will be expanded upon. Students will apply safe work procedures and tool usage throughout the course.

Rationale:

This course completes the Cisco IT Essentials I: PC Hardware and Software curriculum. This course does not result in CompTIA A+ certification; two formal exams must be taken at a Prometric™ Testing Centre at the student's own expense, upon completion of the course.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1.   Identify and describe various personal computer configurations and internal components.
      Potential Elements of the Performance:
      - Identify and describe the uses of various PC cases and power supplies
      - Describe the internal organization of popular CPUs
      - Describe situations requiring replacement or upgrade of computer components and peripherals and perform the replacement/upgrade
      - Describe laptop form factors and various portable devices currently available

2.   Perform preventive maintenance and troubleshooting.
      Potential Elements of the Performance:
      - Explain the purpose of preventive maintenance
      - Identify the elements of the troubleshooting process
      - Given a non functioning system, some spare parts, and a POST card, troubleshoot and repair the system
      - Utilize system diagnostic tools to aid in PC Maintenance
      - Perform advanced preventative maintenance and troubleshooting techniques on operating systems
      - Perform advanced preventative maintenance and troubleshooting techniques on networks
      - Perform advanced preventative maintenance and troubleshooting techniques on system security

3.   Advanced installation and configuration of printers and scanners.
      Potential Elements of the Performance:
      • Describe and perform the advanced installation and configuration process for printers and scanners
4.   Design and install a network with appropriate security.
      Potential Elements of the Performance:
      • Identify potential safety hazards and implement proper safety procedures associated with networks
      • Design a network based on customer's needs
      • Determine the components for your customer's network
      • Define security threats
      • Identify security procedures
      • Outline security requirements for customer's needs
      • Select security components based on customer's needs
5.   Install and configure peripheral devices including: SCSI controllers and devices, RAID controllers and SATA hard drives.
      Potential Elements of the Performance:
      • Install a SCSI controller and two SCSI devices
      • Install a SATA hard drive and compare it to a PATA hard drive
      • Install a RAID controller and hard drives
6.   Analyze system performance, describe factors that can affect performance and recommend the level of system components in order to satisfy a particular performance requirement.
      Potential Elements of the Performance:
      • Describe the features of a system (processor, bus, disk, video, ram etc) that can affect system performance
      • Utilize a performance analysis utility to determine the relative performance of the various subsystems of a computer
      • Demonstrate how system performance can be improved by fine-tuning the system's CMOS setup
      • Demonstrate how different hard drive controller types can improve system performance
      • Describe various types of system upgrades including processors, memory types etc.

III.   TOPICS:

1.   Identify and describe various personal computer configurations and internal components
2.   Perform preventive maintenance and troubleshooting
3.   Advanced installation and configuration of printers and scanners
4.   Design and install a network with appropriate security
5.   Install and configure peripheral devices including: SCSI controllers and devices, RAID controllers and SATA hard drives.
6.   Analyze system performance, describe factors that can affect performance and recommend the level of system components in order to satisfy a particular performance requirement.

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:
     The curriculum is provided on-line.

V.   EVALUATION PROCESS/GRADING SYSTEM:
CISCO:

Online Cisco Chapter exams	10%
Cisco Final Exam	25%
Cisco Lab Activities & Practical	15%

OTHER:

Lab Activities and Lab Quizzes	25%
Final Test	25%

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:

Course Hours	Deduction
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

Final penalties will be reviewed by the professor and will be at the discretion of the professor.

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.

VI.   SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers will not be granted admission to the room.*

VII.   COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.