COURSE OUTLINE

Section 1:

Course Title: A+ Software

Course Code: CMPS-1000

Course Description: Installation, configuration, upgrading, and maintenance of common Microsoft Windows desktop operating systems. Students are introduced to security technologies, tools, and best practices to protect data and computer resources. Students also setup a small office home office (SOHO) computer network. Troubleshooting techniques and tools are utilized to efficiently resolve operating system and computer networking issues. The learning outcomes of this course map to components of the CompTIA A+ certification.

Grade Scheme: ☐ Pass/Fail ☒ Percentage Minimum Pass Mark: 60%

Course Value: Outcome hours OR 3 Credit(s) 60 (15 class + 45 lab) Hours

Pre-requisites: NONE

Co-requisites: NONE

Section 2:

Learning Outcomes and Competencies

1. **Use various operating systems for common operational tasks.**

    1.1 Identify the major desktop components and interfaces, and their functions.

    1.2 Differentiate the characteristics of major operating systems.

    1.3 Identify the names, locations, and purposes of major system files.

    1.4 Demonstrate the ability to use command-line utilities to manage the operating system.

    1.5 Identify basic concepts and procedures for creating, viewing, and managing disks, directories and files.

    1.6 Use operating system utilities to manage the operating system.

2. **Install operating systems to meet user requirements.**

    2.1 Compare and contrast the various methods to install an operating system.

2.2 Identify steps to perform an operating system upgrade.

2.3 Perform installations and upgrades to operating systems.

2.4 Identify the basic system boot sequence and required files.

2.5 Install operating system updates and patches.

2.6 Create hard drive images suitable for deployment on multiple systems.

3. **Configure operating systems to meet user requirements.**

3.1 Identify procedures necessary to optimize operating system performance.

3.2 Install hardware devices.

3.3 Identify the proper procedures for removing a hardware device.

3.4 Configure operating systems to meet user requirements.

3.5 Install and configure application software.

3.6 Compare and contrast the different types of backups.

3.7 Configure backups to meet user requirements.

4. **Use effective customer service skills while resolving computer problems.**

4.1 Determine the customer's problem using open ended questions.

4.2 Explain the services performed on a customer's computer at an appropriate technical level.

4.3 Document all work performed on a customer's computer using industry standards

4.4 Describe how to deal with difficult customers.

4.5 Describe the importance of providing excellent customer service for a computer technician.

5. **Resolve operating systems issues to maintain maximum PC availability.**

5.1 Recognize and interpret the meaning of common error codes and startup messages from the boot sequence.

5.2 Identify steps to correct boot sequence problems.

5.3 Use diagnostic utilities and tools to resolve operating system problems.

5.4 Update device drivers to resolve problems or maximize performance.

5.5 Update (patch) operating systems to resolve problems.

5.6 Patch application software to resolve problems.

6. **Connect workstations to a network to increase functionality.**

6.1 Identify the networking capabilities of the common Windows desktop operating systems.

6.2 Configure Windows operating systems to connect to a network.

6.3 Identify the basic Internet protocols and terminologies.

6.4 Configure operating systems to connect to and use Internet resources.

6.5 Use diagnostic utilities and tools to resolve network connectivity issues.

7. Control access to computer resources to enhance security.

7.1 Create user and group accounts with controlled access to computer resources.

7.2 Create file and folder shares.

7.3 Use file and folder permissions to control access to files and folders.

7.4 Encrypt files and folders.

7.5 Install, configure, and update antivirus and antispyware software.

7.6 Update operating systems and applications to resolve security concerns.

7.7 Configure the Windows firewall.

8. Implement backup procedures to protect user data and minimize equipment downtime.

8.1 Describe the various types of backups.

8.2 Develop a backup and recovery strategy including safe storage of backups.

8.3 Backup and restore user data.

8.4 Backup and restore system files.

8.5 Backup and restore an entire hard drive.

Section 3:

Assessment Categories:

Professionalism	10%
Quizzes	10%
Labs and Projects	25%
Practical (Skills) Exam	25%
Theory Exam	30%

Research Component? ☐ Yes ☒ No

Section 4:

(For administrative use only)

Is this course new? ☐ Yes ☒ No

Is this course replacing an existing course(s)? ☐ Yes ☒ No

If this course is replacing another, please record the name and code of the old course:

Course equivalents: NONE

Note: See Quality Procedure A01 for more details.

Catalog Year of Original Course Implementation: 2011

Catalog Year of Current Version Implementation: 2015

Revision level: 3   **Version:** 3   **Date:** June/2016   **Authorized by:** MLGJ

Accreditation and or Supporting Documents:	National Technology Benchmarks: Canadian Council of Technicians & Technologists; Discipline: Information Technology; Level: Technologist
Additional Information:	None
Subject matter expert(s):	Lino Forner

Approved by: (Program Manager)

Paul Murnaghan   Date Approved: **2016-06-30**

Approved by: (Curriculum Consultant)

Mary Lou Griffin-Jenkins   Date Approved: **2016-06-30**