Operating Systems

(10253)

Rationale Statement:

With computers one of the items that is always going to be an issue is the software that is installed on the computer. Whether the software needs to be upgraded, patched or has conflicts the software can be a constant issue for a technician.

This class is designed to prepare students to become more knowledgeable in the area of computer operating systems and network software through installation, troubleshooting, and hands-on activities related to operating systems.

After completing the course students will have a better understanding of the evolution of computer operating systems and the ability to upgrade software. Students will also learn how to protect their personal and other computers from computer viruses.

Students enrolled in the software class should have an interest in maintaining and upgrading their own computer or in a career as a computer technician.

Topics in the class include the variety of computer operating systems, the evolution of operating systems, the changing worlds of Microsoft and Apple, and how to install and trouble shoot operating systems. We will also look at other applications that are included in the variety of operating systems.

Course Description: Grade Level: 9 – 12

Course Topics:

- Evolution of computer operating systems
- Navigation and using the DOS operating system
- Installation of operating systems
- How software and hardware interact

Core Technical Standards & Examples

Indicator #1: Provide customer support services.	
Bloom's Taxonomy Level	**Standard and Examples**
Analyzing	**OS 1.1 Analyze technical needs to provide customer support.** Examples: • Gather information using interviewing strategies • Identify support requirements. • Apply information and data analysis techniques. • Identify skill level needs. • Identify resources and risks. • Evaluate present data and system configuration. • Formulate a support plan. • Balance resources against customer needs. • Manage multiple customer requirements.
Applying	**OS 1.2 Perform software upgrades and fixes.** Examples: • Analyze operational problems. • Install and configure software packages. • Upgrade system software
Applying	**OS 1.3 Perform standard computer backup procedures.** Examples: • Recognize the need for regular backup procedures. • Develop backup process. • Load backup software. • Perform restore operation using backup software
Applying	**OS 1.4 Perform system maintenance.** Examples: • Identify available diagnostic tools used for system maintenance. • Identify maintenance procedures and processes. • Identify problems using diagnostic tools. • Run diagnostics. • Respond to system messages. • Document system malfunction(s). • Fix recoverable problems. • Restore system. • Establish a preventive maintenance plan. • Create maintenance plan for regular integrity checks. • Identify maintenance procedures and processes.

	• Evaluate maintenance processes and outcomes. • Select most appropriate solution. • Implement selected solution. • Minimize impact of problems on productivity (e.g., minimize downtime).
Applying	**OS 1.5 Troubleshoot software problems.** Examples: • Identify available diagnostic tools used for system maintenance. • Perform appropriate analysis to identify problem cause. • Develop resolution plan. • Identify possible solutions. • Test identified solutions. • Detect problems. • Identify criticality of problem. • Identify problems using diagnostic tools. • Document results & solution

Indicator #2: Define and analyze system and software requirements	
Bloom's Taxonomy Level	**Standard and Examples**
Evaluating	**OS 2.1 Identify new IT technologies relevant to computer software.** Examples: • Assess the importance of new technologies to future developments. • Identify system-processing requirements. • Identify data communication trends and major current issues. • Determine compatibility of hardware and software.
Understanding	**OS 2.2 Explain measurement techniques for increased productivity due to information systems implementation.** Examples: • Identify benchmark metrics for measuring • Measure increases in productivity realized by the implementation of information systems.