CTS 255 Advanced Tech Support Functions

COURSE DESCRIPTION:
Prerequisites: None
Corequisites: None

This course builds upon the foundational knowledge gained in CTS 155 and delves deeper into advanced Windows troubleshooting techniques and helpdesk management strategies. Students will explore topics such as network connectivity troubleshooting, system optimization, and incident management. The course emphasizes proactive approaches to system maintenance, including performance tuning, backup and recovery strategies, and security best practices. Students will engage in hands-on labs, case studies, and a team-based project focused on real-world IT scenarios to develop advanced troubleshooting and helpdesk management skills. The course also covers advanced Active Directory concepts and advanced user/system setup and configuration tasks.
Course Hours Per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:
Upon completion of the course, the student will be able to:
1. Apply advanced troubleshooting methodologies to diagnose and resolve complex Windows operating system issues, including network connectivity problems.
2. Utilize performance monitoring tools and techniques to optimize system performance and resource utilization.
3. Implement backup and recovery strategies to safeguard critical data and ensure business continuity.
4. Manage incidents effectively by following incident response protocols and escalation procedures.
5. Evaluate and implement security measures to protect Windows systems from malware, vulnerabilities, and unauthorized access.
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7. Evaluate and implement security measures to protect Windows systems from malware, vulnerabilities, and unauthorized access.
8. Lead and participate in helpdesk teams, demonstrating effective communication, collaboration, and leadership skills.
9. Engage in a team-based project to analyze and resolve advanced Windows troubleshooting scenarios, presenting findings and solutions to the class.
10. Understand advanced Active Directory concepts for user and system management.
11. Perform advanced user and system setup and configuration tasks within a Windows environment, including group policies and system policies

OUTLINE OF INSTRUCTION:
I. Advanced Troubleshooting Methodologies
    A. Apply advanced troubleshooting methodologies for diagnosing and resolving complex Windows OS issues.
    B. Troubleshoot network connectivity problems using advanced techniques.

II.   Performance Optimization
   A.   Utilize performance monitoring tools to optimize system performance and resource utilization.
III.   Backup and Recovery Strategies
   A.   Implement backup and recovery strategies to safeguard critical data and ensure business continuity.
IV.   Incident Management
   A.   Manage incidents effectively by following incident response protocols and escalation procedures.
V.   Security Implementation
   A.   Evaluate and implement security measures to protect Windows systems from malware, vulnerabilities, and unauthorized access.
VI.   Leadership and Teamwork
   A.   Lead and participate in helpdesk teams, demonstrating effective communication, collaboration, and leadership skills.
   B.   Engage in a team-based project to analyze and resolve advanced troubleshooting scenarios, presenting findings and solutions to the class.
VII.   Advanced Active Directory Concepts
   A.   Understand advanced Active Directory concepts for user and system management.
VIII. User and System Configuration
   A.   Perform advanced user and system setup and configuration tasks within a Windows environment, including group policies and system policies.

REQUIRED TEXTBOOK AND MATERIALS:

Text to be assigned by the instructor each semester.