



Western Technical College

10150198 Network Service and Support

Course Outcome Summary

Course Information

Description	Students apply the skills and techniques of an information technology (IT) professional supporting an IT installation. IT technology is constantly changing. Students learn how to keep current on IT trends, supporting, exploring, selecting and implementing IT changes. The course uses a variety of tools, exploring the use of project management techniques and software, investigates the status of current and future IT emerging technologies, and implements a VoIP strategy.
Career Cluster	Information Technology
Instructional Level	Associate Degree Courses
Total Credits	3
Total Hours	90

Pre/Corequisites

Prerequisite	10150194 Windows Server Admin 2
Prerequisite	10154110 Windows PowerShell Scripting
Prerequisite	10150137 Linus Administration

Textbooks

No textbook required.

Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Live Responsibly: Develop Resilience
3. Live Responsibly: Foster Accountability

4. Refine Professionalism: Act Ethically
5. Refine Professionalism: Improve Critical Thinking
6. Refine Professionalism: Practice Effective Communication

Program Outcomes

1. Identify security strategies
2. Implement secure infrastructures
3. Conduct security testing
4. Analyze security data
5. Mitigate risk
6. Develop security documentation

Course Competencies

1. Automate the Deployment of a Microsoft Windows Operating System

Assessment Strategies

- 1.1. Project

Criteria

You will know you are successful when:

- 1.1. you have installed a functioning deployment services environment
- 1.2. you have created a working autounattend answer file
- 1.3. you have deployed a new OS with full automation using the answerfile

Learning Objectives

- 1.a. Define technologies associated with creating an autounattend XML answer file
- 1.b. Explain the value of deployment automation
- 1.c. Explore the components of Microsoft's PXE WDS role

2. Deploy a unified communication system and configure message archiving

Assessment Strategies

- 2.1. Project

Criteria

You will know you are successful when:

- 2.1. you have deployed a unified communications system
- 2.2. you have created user accounts and configured journaling on a unified communications system
- 2.3. you have deployed a Linux Server and configured it for message archiving
- 2.4. you have configured the message archive system to retrieve and expunge journaled messages from the unified communications system

Learning Objectives

- 2.a. Prepare the network environment by integrating a unified communication software with Active Directory
- 2.b. Create accounts on the unified communications server and configure "journal rules"
- 2.c. Install a Linux server and deploy a message archiving software
- 2.d. Configure message archiving software to retrieve journaled messages from the unified communications server

3. Design, Install, and Configure a Private Data Cloud

Criteria

You will know you are successful when:

- 3.1. you have deployed a Linux server

- 3.2. you have researched the components of a private data cloud
- 3.3. you have deployed the private cloud components on a Linux server
- 3.4. you have configured a custom group with external storage settings
- 3.5. you have utilized sealert to troubleshoot SELinux errors
- 3.6. you have deployed the private cloud client on windows and configured it to authenticate to the private cloud server

Learning Objectives

- 3.a. Deploy a full stack on a Linux server
- 3.b. Implement a private data cloud solution utilizing the full stack on a Linux server
- 3.c. Create user accounts and configure external storage support on the private data cloud
- 3.d. Install and configure a windows client to connect to the private data cloud from a windows workstation

4. Install and Configure a Content Management System

Criteria

You will know you are successful when:

- 4.1. you have deployed a stand-alone Windows server
- 4.2. you have reviewed and researched a CMS autodeployment PowerShell script
- 4.3. you have troubleshooted and remedied the anomalies in the autodeployment PowerShell script
- 4.4. you have deployed and configured a functional CMS
- 4.5. you have deployed a backup module to the CMS and configured it to backup the CMS settings

Learning Objectives

- 4.a. Analyze and identify functionality in a pre-created PowerShell automated installer script
- 4.b. Troubleshoot errors in a PowerShell script
- 4.c. Identify CMS components and verify functionality
- 4.d. Utilize CMS to create a custom theme with custom content
- 4.e. Deploy a backup module to the CMS and perform a backup of the CMS site

5. Mapping, Diagraming, and Monitoring a Network

Criteria

You will know you are successful when:

- 5.1. you have researched network topology mapping solutions
- 5.2. you have deployed a Network Mapping Software and performed a network map/scan
- 5.3. you have researched network monitoring solutions
- 5.4. you have deployed a network monitoring software
- 5.5. you have created a networking monitoring environment in VMware
- 5.6. you have configured network monitoring software to provide alerts, via email, for failed services

Learning Objectives

- 5.a. Deploy a Network Mapping software package
- 5.b. Configure network mapping software to utilize custom SNMP settings and WMI credentials for a detailed scan
- 5.c. Generate a detailed network map utilizing the configured settings in a network mapping solution
- 5.d. Deploy a network monitoring solution
- 5.e. Configure the network monitoring solution to monitor core services (HTTP, SMTP, IMAP, MySQL, and SAMBA) along with a custom port
- 5.f. Configure the network monitoring solution to send custom alerts to an email address

6. Business Continuity and Disaster Recovery Planning --EXPIRE

Criteria

You will know you are successful when:

- 6.1. you explain the importance of redundancy
- 6.2. you evaluate the value of a cold site, warm site, and hot site
- 6.3. you describe the function of an Uninterruptible Power Supply (UPS)
- 6.4. you access the potential causes of natural disasters
- 6.5. you locate and review business interruption plans
- 6.6. you create a business interruption plan

- 6.7. you compare and contrast various backup media
- 6.8. you list costs and value of having redundant equipment
- 6.9. you explain the value and cost of uptime availability and downtime
- 6.10. you test a backup and restore procedure

Learning Objectives

- 6.a. Describe and compare various backup media
- 6.b. Examine various types of business interruption
- 6.c. Develop a business interruption plan
- 6.d. Explain the importance of system availability

7. Value working with others. --EXPIRE

Criteria

You will know you are successful when:

- 7.1. you join in group discussions
- 7.2. you share ideas with others
- 7.3. you listen to ideas of others
- 7.4. you display mature attitudes towards others
- 7.5. you participate in team activities
- 7.6. you accept responsibility for completing assigned tasks
- 7.7. you encourage other members of the team to participate
- 7.8. you arrive at meeting place on time and with required materials

Learning Objectives

- 7.a. Work successfully in groups
- 7.b. Appreciate individual differences
- 7.c. Accept responsibility for completing tasks

8. Examine resources for obtaining technical support. --EXPIRE

Criteria

You will know you are successful when:

- 8.1. you have accessed and demonstrated usage of Microsoft Technet support
- 8.2. you have accessed and demonstrated usage of other vendor web sites
- 8.3. you have identified and listed at least 3 online discussion groups or forums
- 8.4. you have identified and listed at least 3 professional journals or magazines
- 8.5. you have prepared a list of reasons for contacting using technical support
- 8.6. you have prepared a knowledge base of a simulated company's internal IT support
- 8.7. you have demonstrated usage of webcasts

Learning Objectives

- 8.a. Recognize the value of using vendors technical support web sites
- 8.b. Prepare a list of technical resources on the internet
- 8.c. Develop a plan for using technical references on a regular basis

9. Develop a trouble shooting strategy. --EXPIRE

Criteria

You will know you are successful when:

- 9.1. you interviewed an IT installation regarding their installation monitoring process
- 9.2. you prepared a report on the IT interview highlighting key monitoring components
- 9.3. you prepared a report explaining how to create a baseline of a network and server performance
- 9.4. you prepared a training format for others to use to recognize and report network problems
- 9.5. you created a problem log
- 9.6. you devise a step-by-step strategy to locate the source of a problem
- 9.7. you show how documenting problems and solutions is important to the IT organization
- 9.8. you describe how knowledge of an organization may help in troubleshooting network problems

Learning Objectives

- 9.a. Create a baseline to determine normal network activity
- 9.b. Train others to recognize and report network errors
- 9.c. Devise an orderly approach to troubleshooting
- 9.d. Explain how to gather information to use in troubleshooting
- 9.e. Describe importance of recording error messages
- 9.f. Create a problem log