



Western Technical College

10150194 Windows Server Administration 2

Course Outcome Summary

Course Information

Description	Teaches students advanced LAN administration skills such as tuning the network for better performance and monitoring and optimizing the server. The student learns how to manage and customize client workstations. Other topics covered will include managing the NDS tree, working with domains, setting up remote access, installing TCP/IP, and integrating networks.
Career Cluster	Information Technology
Instructional Level	Associate Degree Courses
Total Credits	3
Total Hours	90

Pre/Corequisites

Prerequisite Prerequisite(s): 10150192 Windows Server Administration 1

Textbooks

MCSA Guide to Installation, Storage, and Compute with Windows Server 2016, Exam 70-740. 1st Edition. Copyright 2018. Tomsho, Greg. Publisher: Cengage Learning. **ISBN-13:** 978-1-337-40068-8. Required.

MCSA Guide to Networking with Windows Server 2016, Exam 70-741. 1st Edition. Copyright 2018. Tomsho, Greg. Publisher: Cengage Learning: **ISBN-13:** 978-1-337-40080-0. Required.

MCSA Guide to Identify with Windows Server 2016, Exam 70-742. 1st Edition. Copyright 2018. Tomsho, Greg. Publisher: Cengage Learning: **ISBN-13:** 978-1-337-40091-6. Required.

Hands-On Microsoft Windows Server 2019. 3rd Edition. Copyright 2021. Eckert, Jason. Publisher: Cengage Learning. **ISBN-13:** 978-0-357-43615-8. Required.

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. Value working with others.

Assessment Strategies

- 1.1. Lab Assignment

Criteria

You will know you are successful when

- 1.1. you join in group discussions.
- 1.2. you participate in team activities.
- 1.3. you share ideas with others.
- 1.4. you listen to ideas of others.
- 1.5. you display mature attitudes towards others.
- 1.6. you accept responsibility for completing assigned tasks.
- 1.7. you encourage other members of the team to participate.
- 1.8. you arrive at meeting place on time and with required materials.

Learning Objectives

- 1.a. Work successfully in groups
- 1.b. Appreciate individual differences
- 1.c. Accept responsibility for completing tasks
- 1.d. Develop responsible work habits

2. Construct a Network Management plan.

Assessment Strategies

- 2.1. Lab Assignment
- 2.2. Oral Test

Criteria

You will know you are successful when

- 2.1. you design and document application and updates scheme.
- 2.2. you create a network backup plan.
- 2.3. you create a network redundancy plan.
- 2.4. you write rules for network documentation.
- 2.5. you list steps and strategies for anti-virus protection.
- 2.6. you create documentation for proper email usage.
- 2.7. you create a contract detailing proper user network usage.
- 2.8. you create a plan for responsibility of network uptime and authority.

Learning Objectives

- 2.a. Plan for the scope of network management
- 2.b. Document network management plan
- 2.c. Create a network user agreement

3. Plan and develop an Active Directory Implementation.

Assessment Strategies

- 3.1. Lab Assignment
- 3.2. Skills Test
- 3.3. Written Objective Test

Criteria

You will know you are successful when

- 3.1. you list benefits of active directory implementation.
- 3.2. you design an appropriate organizational model for implementing active directory.
- 3.3. you list the purposes of organizational units.
- 3.4. you use organization units to delegate control within active directory.
- 3.5. you create appropriate DNS namespace for active directory environment.
- 3.6. you design and document an active directory infrastructure.
- 3.7. you list the limits and benefits of sites and sites boundaries.
- 3.8. you describe how domain controllers replicate data.

Learning Objectives

- 3.a. Generate a scope for an active directory installation
- 3.b. Explain the benefits of active directory
- 3.c. Identify appropriate DNS namespace for active directory
- 3.d. Demonstrate the need for using active directory in an enterprise environment

4. Install and configure Active Directory in an enterprise environment.

Assessment Strategies

- 4.1. Lab Assignment
- 4.2. Skills Test
- 4.3. Written Objective Test

Criteria

You will know you are successful when

- 4.1. you install Active Directory on a Windows Network Operating system.
- 4.2. you create a backup and restore plan for active directory files.
- 4.3. you create local, global, and universal groups.
- 4.4. you add appropriate users to local, global, and universal groups.
- 4.5. you apply permissions using local, global, and universal groups.
- 4.6. you identify data, location, and purpose of active directory files.
- 4.7. you create sites and site links within active directory.
- 4.8. you understands and creates global catalog servers.
- 4.9. you assign permission between domains in active directory.
- 4.10. you list benefits and purpose of multiple active directory domain controllers.
- 4.11. you promote a member server to a domain controller.

Learning Objectives

- 4.a. Install active directory on Windows 2003 server
- 4.b. Add clients to a domain within active directory
- 4.c. Confirm active directory files and locations
- 4.d. Identify location and purpose of global catalog servers
- 4.e. Describe the scopes of security groups across an active directory installation

5. Administer Active Directory maintenance and recovery.

Assessment Strategies

- 5.1. Lab Assignment
- 5.2. Skills Test

Criteria

You will know you are successful when

- 5.1. you perform backup of active directory components.
- 5.2. you identify crucial active directory files and locations.
- 5.3. you identify need for active directory restore.
- 5.4. you perform restore of active directory components.
- 5.5. you verify permissions necessary for backup and restore of active directory files.
- 5.6. you delegate control for active directory maintenance.

Learning Objectives

- 5.a. Describe how data is stored in active directory

- 5.b. Back up active directory files
- 5.c. Restore active directory files
- 5.d. Verify security permissions needed to administer active directory

6. Install and configure Domain Name System (DNS) services.

Assessment Strategies

- 6.1. Lab Assignment
- 6.2. Skills Test
- 6.3. Written Objective Test

Criteria

You will know you are successful when

- 6.1. you describe purpose of DNS name resolution.
- 6.2. you identify the roles of Primary, Secondary, Caching, and Forwarding DNS servers.
- 6.3. you link relationship between DNS and active directory.
- 6.4. you identify the uses for DNS zones.
- 6.5. you create appropriate namespace for scope of active directory install.
- 6.6. you identify location of core DNS files.
- 6.7. you install DNS services on Windows 2003 Server for active directory.
- 6.8. you implement multiple DNS servers within the domain.
- 6.9. you create dynamic relationship between DNS and DHCP servers.
- 6.10. you identify benefits of DNS, WINS, and DHCP interaction.

Learning Objectives

- 6.a. Identify need for DNS name resolution
- 6.b. Explain the different types of name servers used for DNS
- 6.c. Identify use of DNS zones
- 6.d. Create a DNS name strategy
- 6.e. Install DNS for an active directory implementation
- 6.f. Configure DNS for active directory
- 6.g. Explain interoperability of DNS with WINS and DHCP

7. Install and configure Dynamic Host Configuration Protocol (DHCP).

Assessment Strategies

- 7.1. Lab Assignment
- 7.2. Skills Test
- 7.3. Written Objective Test

Criteria

You will know you are successful when

- 7.1. you install DHCP services on a server.
- 7.2. you configure clients on domain to use specific DHCP server.
- 7.3. you use ipconfig to verify, release, and renew IP addresses on clients.
- 7.4. you utilize services to start and stop DHCP.
- 7.5. you identify network devices that require static addresses.
- 7.6. you remove network device IP addresses from DHCP pool.

Learning Objectives

- 7.a. Install DHCP Services on Windows network operating system
- 7.b. Create pools for DHCP server
- 7.c. Identify IP addresses to remove from DHCP pools
- 7.d. Configure clients to use DHCP server

8. Apply advanced Group Policy concepts to an active directory installation.

Assessment Strategies

- 8.1. Lab Assignment
- 8.2. Skills Test
- 8.3. Written Objective Test

Criteria

You will know you are successful when

- 8.1. you identify purpose of Group Policy.
- 8.2. you distribute new software using Group Policy.
- 8.3. you update installed software using Group Policy.
- 8.4. you document password policy.
- 8.5. you create password policy.
- 8.6. you describe benefits of applying policies at various levels within Active Directory.
- 8.7. you modify user environments through administrative templates.
- 8.8. you list locations of Group Policy objects.
- 8.9. you explain theory of Group Policy inheritance.
- 8.10. you apply policies strategically to take advantage of Policy inheritance.
- 8.11. you block policy inheritance.
- 8.12. you override blocked policy inheritance.
- 8.13. you view effective policy settings.

Learning Objectives

- 8.a. Understand Group Policy concepts
- 8.b. Implement Group Policies at various levels of active directory
- 8.c. Analyze effective group policy settings
- 8.d. Manage group policies and policy inheritance
- 8.e. Deploy and manage software using Group Policy
- 8.f. Create and apply a custom password policy
- 8.g. Create logon scripts

9. Install and configure Microsoft Exchange Server.

Assessment Strategies

- 9.1. Lab Assignment
- 9.2. Skills Test
- 9.3. Written Objective Test

Criteria

You will know you are successful when

- 9.1. you differentiate between versions of Exchange Server.
- 9.2. you control SPAM email.
- 9.3. you install virus detection and protection for email.
- 9.4. you install supporting services for Exchange Server.
- 9.5. you identify Windows Server to install Exchange on.
- 9.6. you prepare active directory for Exchange installation.
- 9.7. you configure Exchange global settings for organization.
- 9.8. you configure DNS to work with Exchange server and internet email.
- 9.9. you identify different types of recipients supported.
- 9.10. you create new users and email accounts.
- 9.11. you create and apply policies for recipients.
- 9.12. you install and configure client PC to use Outlook.

Learning Objectives

- 9.a. Prepare a Windows Server with active directory for an installation of Exchange Server
- 9.b. Install Exchange Server
- 9.c. Install Outlook on client PC
- 9.d. Create new email accounts

10. Install and configure IIS.

Assessment Strategies

- 10.1. Lab Assignment
- 10.2. Skills Test
- 10.3. Written Objective Test

Criteria

You will know you are successful when

- 10.1. you install supporting services for IIS.
- 10.2. you install Internet Information Services.
- 10.3. you identify security pitfalls for IIS installation.
- 10.4. you install updates and patches for IIS.
- 10.5. you apply security plan to IIS install.
- 10.6. you create and publish to IIS from a client PC.
- 10.7. you test intrusion vulnerability of IIS.

Learning Objectives

- 10.a. Install Internet Information Services (IIS)
- 10.b. Identify and maintain security for an IIS server
- 10.c. Create and modify Web folders
- 10.d. Configure Web-site authentication

11. Configure Terminal Services.

Assessment Strategies

- 11.1. Lab Assignment
- 11.2. Skills Test
- 11.3. Written Objective Test

Criteria

You will know you are successful when

- 11.1. you install Terminal Services on a server.
- 11.2. you connect to Terminal Services from client PC.
- 11.3. you connect to pc's using remote desktop.
- 11.4. you connect to a server using remote desktop for administration.

Learning Objectives

- 11.a. Configure Terminal Services
- 11.b. Configure Remote Desktop

12. Plan and deploy patch management.

Assessment Strategies

- 12.1. Lab Assignment

Criteria

You will know you are successful when

- 12.1. you evaluate needs for service packs.
- 12.2. you evaluate needs for hot fixes.
- 12.3. you install service packs and hot fixes.
- 12.4. you implement SUS on a network.
- 12.5. you configure clients to attach to SUS server.
- 12.6. you coordinate a multiple hotfix deployment.
- 12.7. you install and configure automatic updates on client pc's.
- 12.8. you evaluate needs of Exchange Server and IIS for patch management.
- 12.9. you apply patches and hotfixes as needed to Exchange and IIS.
- 12.10. you automate software update verification.

Learning Objectives

- 12.a. Configure automatic updates on client pc's
- 12.b. Install service packs and hot fixes
- 12.c. Install Microsoft Software Update Services
- 12.d. Manage Microsoft Software Update Services (SUS)
- 12.e. Manage Software Update Distribution