

NOS 230 Windows Admin I

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

This foundational course introduces IT professionals and system administrators to the essential skills required for setting up and managing the latest Windows Server operating systems through practical, project-based learning. Participants will build a basic Active Directory (AD) environment and configure a file server using Hyper-V, focusing project work that underscores key server infrastructure management practices and hybrid environment concepts. This course offers a hands-on approach to learning essential management practices, while preparing participants for the AZ-800 exam and laying a solid groundwork in server administration.

Course Hours per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

1. Install Windows Server and implement Active Directory Domain Services.
2. Configure Windows Server and Active Directory, including user, group, and computer account management.
3. Set up and configure a hyper v virtual machine.
4. Implement file sharing using security groups.
5. Manage access to server resources and implement group policies.
6. Demonstrate foundational knowledge of Microsoft Azure services and products.
7. Explain Azure subscriptions, resources, and resource groups.
8. Deploy and configure Azure Active Directory for identity and access management.
9. Provision and manage Azure virtual machines and virtual networks.
10. Set up Azure File Shares and Storage accounts for data storage.
11. Design and implement Azure virtual networks for secure connectivity.
12. Set up Azure Backup and disaster recovery solutions.
13. Monitor and optimize Azure resources for performance and security.
14. Implement Azure security and compliance measures.
15. Implement Azure governance policies and resource management.

OUTLINE OF INSTRUCTION:

- I. Overview and Implementation of Active Directory Services.
 - A. Design requirements and hierarchy
 - B. AD Schema
- II. Installing Windows Server 2016 and Active Directory
 - A. Requirements and prerequisites
 - B. Installation and roles
 - C. Trust relationships
 - D. Site plan, subnets, and managing replication

E. Global Catalog and FSMO roles

III. Active Directory Administration

- A. Create and manage User, Group, and Computer accounts
- B. Default, local, and Special Identify groups

IV. Security Planning and Group Policy

- A. Password security: enforcement and user education
- B. Organization Unit planning and delegation
- C. Group Policy architecture, container, and templates
- D. Management Console
- E. Configuring account and local policies
- F. Audit policies
- G. Managing Group Policy Objects

V. Maintenance, Troubleshooting, and Disaster Recovery

- A. Backup and Restore
- B. PowerShell
- C. Monitoring – Event log, Reliability and Performance Monitor

VI. Configuring Networking and Securing Services

- A. Server types
- B. DHCP and Static IP Addressing
- C. DNS in an Active Directory Domain

VII. Implementing Virtualization using Hyper-V

- A. Installing and implementing a Hyper-V Server
- B. Configuring and managing virtual switches

VIII. Configuring and Managing File Shares

- A. Creating file shares for an organization
- B. Share and NTFS Permissions
- C. Implementing Accessed-based Enumeration
- D. Managing file shares using Active Directory security groups

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the instructor.