

## NOS 232 Windows Administration III

### COURSE DESCRIPTION:

Prerequisites: NOS 230

Corequisites: None

This course covers management and configuration of a highly available Windows Server operating system. Emphasis is placed on the implementation of business continuity and disaster recovery procedures for network services and access controls. Upon completion, students should be able to manage and configure a highly available Windows Server operating system.

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. Secure Windows Server On-premises and Hybrid Infrastructures:
  - a. Equip participants with strategies to fortify Windows Server installations against potential threats, ensuring a secure foundation for both on-premises and hybrid cloud environments.
  - b. Teach methods for securing privileged accounts and critical systems, including the implementation of least privilege principles and the use of advanced security mechanisms.
  - c. Provide knowledge on effectively managing permissions and access controls to ensure that only authorized users and processes can access sensitive information and systems.
2. Understand Azure Administration, Hierarchy, and Permissions:
  - a. Introduce Azure's administrative hierarchy and permissions model, enabling participants to effectively manage resources and access within Azure environments.
  - b. Demonstrate how to use Azure Policy to enforce organizational governance and compliance standards across Azure resources.
3. Leverage Security and Monitoring Tools in Azure:
  - a. Explore the range of security and monitoring tools available in Azure, teaching participants how to detect, investigate, and respond to security threats.
4. Navigate Azure Networking:
  - a. Cover the fundamentals of Azure networking, including network configuration, security, and connectivity options to support hybrid environments.
5. Manage Highly Available Windows Server Operating Systems:
  - a. Instruct on installing, configuring, and managing network servers and services to ensure high availability and reliability of Windows Server operating systems.
6. Configure and Troubleshoot Networked Windows Server Operating Systems:
  - a. Guide participants through the configuration of networked Windows Server operating systems, focusing on the setup of network services and security.
  - b. Equip participants with the skills to monitor, maintain, and troubleshoot network services, ensuring optimal performance and swift resolution of issues.
7. Implement Business Continuity and Disaster Recovery Procedures:
  - a. Teach the creation and implementation of business continuity and disaster recovery plans, focusing on network services and access controls to minimize downtime and data loss.

- b. Provide strategies for managing data storage solutions and disaster recovery processes, ensuring data integrity and availability in case of system failures.

## **OUTLINE OF INSTRUCTION:**

- I. Configure and manage high availability
  - A. Configure Network Load Balancing (NLB)
  - B. Configure failover clustering
  - C. Manage failover clustering roles
  - D. Manage VM movement Installing and Configuring Windows Server
  
- II. Configure File and Storage Solutions
  - A. Configure advanced file services
  - B. Implement Dynamic Access Control (DAC)
  - C. Configure and optimize storage
  
- III. Implement business continuity and disaster recovery
  - A. Configure and manage backups
  - B. Recover servers
  - C. Configure site-level fault tolerance
  
- IV. Configure Network Services
  - A. Implement an advanced Dynamic Host Configuration Protocol (DHCP) solution
  - B. Implement an advanced DNS solution
  - C. Deploy and manage IP Address Management (IPAM)
  
- V. Configure the Active Directory infrastructure
  - A. Configure a forest or a domain
  - B. Configure trusts C. Configure sites
  - C. Manage Active Directory and SYSVOL replication
  
- VI. Configure Identity and Access Solutions
  - A. Implement Active Directory Federation Services (AD FS)
  - B. Install and configure Active Directory Certificate Services (AD CS)
  - C. Manage certificates
  - D. Install and configure Active Directory Rights Management Services (AD RMS)

## **REQUIRED TEXTBOOK AND MATERIAL:**

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