# WS-011: Windows Server 2019 Administration

## Course Outline

1. Windows Server Administration Overview
   a. Introducing Windows Server 2019
   b. Windows Server Core Overview
   c. Windows Server administration principles and tools overview
   d. Lab : Deploying and configuring Windows Server
2. Identity Services in Windows Server
   . AD DS Overview
   a. Deploying Windows Server domain controllers
   b. Azure AD overview
   c. Implementing Group Policy
   d. Active Directory Certificate Services overview
   e. Lab : Implementing Identity Services and Group Policy
3. Network Infrastructure services in Windows Server
   . Deploying and managing DHCP
   a. Deploying and managing DNS service
   b. Deploying and managing IPAM
   c. Remote Access Services in Windows Server
   d. Lab : Implementing and configuring network infrastructure services in Windows Server
4. File Servers and Storage management in Windows Server
   . Volumes and File Systems in Windows Server
   a. Implementing sharing in Windows Server
   b. Implementing Storage Spaces in Windows Server
   c. Implementing Data Deduplication
   d. Implementing iSCSI
   e. Deploying Distributed File System
   f. Lab : Implementing storage solutions in Windows Server
5. Hyper-V virtualization and containers in Windows Server
   . Hyper-V in Windows Server
   a. Configuring VMs
   b. Securing virtualization in Windows Server
   c. Containers in Windows Server
   d. Overview of Kubernetes
   e. Lab : Implementing and configuring virtualization in Windows Server
6. High Availablity in Windows Server

- Planning for failover clustering implementation
    a. Creating and configuring failover cluster
    b. Overview of stretch clusters
    c. High availability and disaster recovery solutions with Hyper-V VMs
    d. Lab : Implementing failover clustering
7. Disaster recovery in Windows Server
- Hyper-V Replica
    a. Backup and restore infrastructure in Windows Server
    b. Lab : Implementing Hyper-V Replica and Windows Server Backup
8. Windows Server security
- Credentials and privileged access protection
    a. Hardening Windows Server
    b. JEA in Windows Server
    c. Securing and analyzing SMB traffic
    d. Windows Server update management
    e. Lab : Configuring security in Windows Server
9. RDS in Windows Server
- Overview of RDS
    a. Configuring a session-based desktop deployment
    b. Overview of personal and pooled virtual desktops
    c. Lab : Implementing RDS in Windows Server
10. Remote access and web services in Windows Server
- Implementing VPNs
    a. Implementing Always On VPN
    b. Implementing NPS
    c. Implementing Web Server in Windows Server
    d. Lab : Deploying network workloads
11. Server and performance monitoring in Windows Server
- Overview of Windows Server monitoring tools
    a. Using Performance Monitor
    b. Monitoring event logs for troubleshooting
    c. Lab : Monitoring and troubleshooting Windows Server
12. Upgrade and migration in Windows Server
- AD DS migration
    a. Storage Migration Service
    b. Windows Server migration tools
    c. Lab : Migrating Server workloads