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Course Outline for CNT 57

MS SERVER ADVANCED SERVICES MCSA III

Effective: Spring 2016

I. CATALOG DESCRIPTION:

CNT 57 — MS SERVER ADVANCED SERVICES MCSA III — 3.00 units

This course prepares the students for the Microsoft Certified Solutions Associate (MCSA) certification, and is the third of a series of three exams which validate the skills and knowledge necessary to implement a core Windows Server Infrastructure into an existing enterprise environment. The three MCSA exams collectively validate the skills and knowledge necessary for implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server environment. This course focuses on skills for real jobs and prepares students to master Advanced Windows Server Services such as tasks necessary to deploy, manage, and maintain a Windows Server infrastructure. This course also includes these topics: Implementing Advanced Network Services, Implementing Advanced File Services, Implementing Dynamic Access Control, Implementing Network Load Balancing, Implementing Failover Clustering, Implementing Disaster Recovery, Implementing Active Directory Certificate Services (AD CS), and Implementing Active Directory Federation Services (AD FS).

2.50 Units Lecture 0.50 Units Lab

Strongly Recommended

CNT 52 - Networking Fundamentals

CNT 56 - Administering Windows Server MCSA II

Grading Methods:

Letter or P/NP

Discipline:

	MIN
Lecture Hours:	45.00
Lab Hours:	27.00
Total Hours:	72.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 2

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering this course, it is strongly recommended that the student should be able to:

- A. CNT52
- B. CNT56
 - 1. Monitor servers
 - 2. Configure Distributed File System (DFS)
 - 3. Configure advanced Audit Policies
 - 4. Configure VPN and routing
 - 5. Configure a Network Policy Server
 - 6. Configure Network Access Protection (NAP)
 - 7. Configure Server Authentication
 - 8. Configure Domain Controllers with Active Directory
 - 9. Configure Account Policies and Group Policies

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

- A. Configure Network Load Balancing
- B. Configure and manage failover clustering
- C. Manage Virtual Machine movement
- D. Configure Advanced File Services & Implement Dynamic Access Control
- E. Configure and optimize storage and backups
- F. Recover servers and configure site-level fault tolerance
- G. Implement an Advanced Dynamic Host Configuration Protocol (DHCP) and DNS solutions
- H. Deploy and manage IPAM

- I. Configure a domain and forest, trusts, and sites
- J. Manage Active Directory and SYSVOL replication
- K. Implement Active Directory Federation Services
- L. Install and manage Active Directory Certificate services
- M. Install and configure Active Directory Rights Management Services

V. CONTENT:

- A. Configure and manage high availability
 - 1. Configure Network Load Balancing (NLB)
 - 2. Configure failover clustering
 - 3. Configure virtual machine (VM) monitoring
- B. Configure file and storage solutions
 - 1. Configure Network File System (NFS) data store & configure BranchCache
 - 2. Implement Dynamic Access Control (DAC)
 - 3. Configure iSCSI target and initiator
- C. Implement business continuity and disaster recovery
 - 1. Configure Windows Server backups, configure Microsoft Azure backups
 - 2. Restore from backups, perform a Bare Metal Restore (BMR)
 - 3. Configure Hyper-V Replica, including Hyper-V Replica Broker and VMs
- D. Configure Network Services
 - 1. Implement an advanced Dynamic Host Configuration Protocol (DHCP) solution
 - 2. Implement an advanced DNS solution
 - 3. Deploy and manage IP Address Management (IPAM)
- E. Configure the Active Directory infrastructure
 - 1. Implement multi-domain and multi-forest Active Directory environments
 - 2. Configure external, forest, shortcut, and realm trusts
 - 3. Configure sites and subnets, create and configure site links
 - 4. Manage Active Directory and SYSVOL replication
- F. Configure Identity and Access Solutions
 - 1. Implement Active Directory Federation Services (AD FS)
 - 2. Install and configure Active Directory Certificate Services (AD CS)
 - 3. Manage certificate templates; implement and manage certificate deployment, validation, and revocation
 - 4. Install and configure Active Directory Rights Management Services (AD RMS)

VI. METHODS OF INSTRUCTION:

- A. **Internships** - Our school, in partnership with local business, offer various types of internships. Our internship office has been active - with much success - placing our graduates in rewarding positions that lead to permanent employment.
- B. **Classroom Activity** - Student labs include: installation and configuration of servers with clients, creation of user and computer accounts, configuration of DNS, DHCP, and IIS servers.
- C. **Simulations** - MOAC Labs consist of virtual computers (Servers and clients) hosted on the Internet on Microsoft sites. They are pre-configured to be readily accessible to specific tasks, so students advance quickly on topics.
- D. **Lab** - Students identify and configure the settings for correct connectivity using IPv4 and IPv6. They install most server roles, and configure the servers in a virtual business environment.
- E. **Demonstration** - Various configurations and server roles are demonstrated, then repeated by students.

VII. TYPICAL ASSIGNMENTS:

- A. Reading:
 - 1. Read Chapter 4. Discuss Microsoft's DHCP Services and how you would implement it on different subnets.
- B. Writing:
 - 1. Choose one of the topics from a list of customer scenarios and write a one-page technical discussion of the subject
- C. Project:
 - 1. Create an DHCP superscope with correct IP ranges and subnet masks.

VIII. EVALUATION:

- A. **Methods**
 - 1. Exams/Tests
 - 2. Quizzes
 - 3. Simulation
 - 4. Class Participation
 - 5. Lab Activities
- B. **Frequency**
 - 1. Weekly lab assignments, simulations, and quizzes
 - 2. Weekly class participation including discussion of real life on-the-job scenarios and current IT news
 - 3. One mid-term exam
 - 4. One Final exam

IX. TYPICAL TEXTS:

- 1. *MCSA Windows Server 2012 Complete Study Guide: Exams 70-410, 70-411, 70-412, and 70-417*. 1 ed., Sybex/Wiley, 2013.
- 2. Microsoft Official Academic Course. *70-412 Configuring Advanced Windows Server 2012 Services R2*. 4 ed., Microsoft, 2015.
- 3. Mackin, J.C. . *Exam Ref 70-412 Configuring Advanced Windows Server 2012 R2 Services (MCSA)*. 1 ed., Microsoft Press, 2014.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. Internet Access to MOAC Labs 70-412 Configuring Advanced Windows Server 2012 Services R2 Online Access Registration Code by Microsoft Official Academic Course ©2015, Digital Content