**Course Outline for CNT 55**

**INSTALLING & CONFIGURING WINDOWS SERVER MCSA I**

**Effective: Spring 2016**

I. CATALOG DESCRIPTION:
   CNT 55 — INSTALLING & CONFIGURING WINDOWS SERVER MCSA I — 3.00 units

   This course prepares the students for the Microsoft Certified Solutions Associate (MCSA) certification, and is the first 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. This course focuses on skills for real jobs and prepares students to master core services such as Active Directory and networking services. This course also covers such skills as: Managing Active Directory Domain Services Objects, Automating Active Directory Domain Services Administration, Implementing Local Storage, Implementing File and Print Services, Implementing Group Policy, and Implementing Server Virtualization with Hyper-V.

   2.50 Units Lecture 0.50 Units Lab

   **Strongly Recommended**
   CNT 52 - Networking Fundamentals


   **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: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

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

   A. CNT52

IV. MEASURABLE OBJECTIVES:
   **Upon completion of this course, the student should be able to:**

   A. Install and Configure Servers, Local Storage, and File & Share Access
   B. Configure Print and Document Services
   C. Configure Servers for Remote Management
   D. Create and Configuring Virtual Machine Settings, Storage, and Virtual Networks
   E. Configure IPv4 and IPv6 Addressing
   F. Deploy and Configuring the DHCP and DNS Services
   G. Install Domain Controllers with Active Directory
   H. Create and Managing Active Directory Users, Groups and Organizational Units
   I. Create Group Policy Objects, Security Policies, and Application Restriction Policies
   J. Configure Windows Firewall

V. CONTENT:
   A. Install and configure servers
      1. Plan for a server installation,server roles, and upgrade
      2. Configure Server Core, configure NIC teaming, install and configure Windows PowerShell Desired State Configuration (DSC)
      3. Design storage spaces, create and mount virtual hard disks (VHDs)
   B. Configure server roles and features
      1. Configure file and share access
      2. Create and configure shares and NTFS permissions
      3. Configure the Easy Print print driver and Enterprise Print Management
      4. Configure servers for remote management
   C. Configure Hyper-V
      1. Create and configure Generation 1 and 2 virtual machines
      2. Configure Hyper-V virtual switches

D. Deploy and configure core network services
    1. Configure IPv4 and IPv6 addressing
    2. Deploy and configure Dynamic Host Configuration Protocol (DHCP) service
    3. Deploy and configure DNS service
E. Install and administer Active Directory
    1. Install domain controllers and AD infrastructure as a service (IaaS) in Microsoft Azure
    2. Automate the creation of Active Directory accounts
    3. Create Active Directory groups and organizational units (OUs)
F. Create and manage Group Policy
    1. Create Group Policy objects (GPOs)
    2. Configure application restriction policies: Configure rule enforcement, configure AppLocker rules, configure Software Restriction Policies
    3. Configure Windows Firewall

## VI. METHODS OF INSTRUCTION:
A. **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.
B. **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.
C. **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.
D. **Demonstration** - Various configurations and server roles are demonstrated, then repeated by students.
E. **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.

## VII. TYPICAL ASSIGNMENTS:
A. Reading:
    1. Read Chapter 9. Discuss Microsoft's Active Directory Services in relation to other industry standard network models for managing users and resources.
B. Writing:
    1. Choose one of the topics from a list of Internet technologies and write a one-page technical discussion of the subject
C. Project:
    1. Create an Active Directory Forest. Populate to the Organization Unit level with users and computers from the class.

## VIII. EVALUATION:
A. **Methods**

    1. Exams/Tests
    2. Quizzes
    3. Simulation
    4. Class Participation
    5. Lab Activities

B. **Frequency**

Weekly Quizzes
One Mid-term Exam
One Final Exam

## IX. TYPICAL TEXTS:
1. Microsoft. *70-410 Installing & Configuring Windows Server 2012 R2.* 4 ed., Wiley, 2014.
2. Zacker, Craig. *Exam Ref 70-410 Installing and Configuring Windows Server 2012 R2 (MCSA).* 1 ed., Microsoft Press, 2014.
3. Panek, William. *MCSA Windows Server 2012 Complete Study Guide: Exams 70-410, 70-411, 70-412, and 70-417.* 1 ed., Sybex/Wiley, 2013.

## X. OTHER MATERIALS REQUIRED OF STUDENTS:
A. Internet Access to MOAC Labs 70-410 Install & Configure Windows Server 12 R2 MLO Online Access Registration Code by Microsoft Official Academic Course 978EOARC00475 ©2015, Digital Content