

OHLONE COLLEGE
Ohlone Community College District
OFFICIAL COURSE OUTLINE

I. Description of Course:

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| <p>1. Department/Course: <u>CNET - 162</u></p> <p>2. Title: <u>Windows Server Installation and Configuration Administration</u></p> <p>3. Cross Reference:</p> <p>4. Units: <u>2</u>
Lec Hrs: <u>1.5</u>
Lab Hrs: <u>1.5</u>
Tot Hrs: <u>54.00</u></p> <p>5. Repeatability: <u>No</u></p> <p>6. Grade Options: Letter Grade, May Petition for Pass/No Pass (GC)</p> | <p>7. Degree/Applicability:
Credit, Degree Applicable, Transferable - CSU (T)</p> <p>8. General Education:</p> <p>9. Field Trips: <u>Not Required</u></p> <p>10. Requisites:
Advisory
CNET 105 PC Hardware and Software
CNET 160A MS Client Operating Systems</p> |
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12. Catalog Description:

This course prepares students as system administrators who will be responsible for installing, configuring, managing, supporting a secure network infrastructure and implementing fault tolerant storage technologies that use the Microsoft Windows Server products. This course helps students prepare for the corresponding Microsoft Exam 70-410.

13. Class Schedule Description:

Set up Windows 2012, implement Active Directory, issue IP address leases, perform name resolutions, configure AppLocker and Windows Firewalls.

14. Counselor Information:

This course, Windows Server 2012 Installation and Configuration, will help participants prepare for Microsoft Exam 70-410. Members of this class will install and configure Active Directory, DHCP, DNS, File server using Microsoft Windows Server 2012. Students will gain hands-on experience that can be used immediately in businesses or non-profit organizations as a System Administrator.

II. Student Learning Outcomes

The student will:

1. Install and configure servers.
2. Configure server roles and features.
3. Configure Hyper-V.
4. Deploy and configure core network services.
5. Install and administer Active Directory.
6. Create and manage Group Policy.

III. Course Content:

- A. Deploying and Managing Windows Server 2012
 - 1. Windows Server 2012 Overview
 - 2. Overview of Windows Server 2012 Management
 - 3. Installing Windows Server 2012
 - 4. Post-Installation Configuration of Windows Server 2012
 - 5. Introduction to Windows PowerShell
 - 6. Lab: Deploying and Managing Windows Server 2012
 - a. Deploying Windows Server 2012
 - b. Configuring Windows Server 2012 Server Core
 - c. Managing Servers
 - d. Using Windows PowerShell to Manage Servers
- B. Introduction to Active Directory Domain Services
 - 1. Overview of AD DS
 - 2. Overview of Domain Controllers
 - 3. Installing a Domain Controller
 - 4. Lab: Installing Domain Controllers
 - a. Installing a Domain Controller
 - b. Installing a Domain Controller by Using IFM
- C. Managing Active Directory Domain Services Objects
 - 1. Managing User Accounts
 - 2. Managing Group Accounts
 - 3. Managing Computer Accounts
 - 4. Delegating Administration
 - 5. Lab: Managing Active Directory Domain Services Objects
 - a. Delegating Administration for a Branch Office
 - b. Creating and Configuring User Accounts in AD DS
 - c. Managing Computer Objects in AD DS
- D. Automating Active Directory Domain Services Administration
 - 1. Using Command-line Tools for AD DS Administration
 - 2. Using Windows PowerShell for AD DS Administration
 - 3. Performing Bulk Operations with Windows PowerShell
 - 4. Lab: Automating AD DS Administration by Using Windows PowerShell
 - a. Creating User Accounts and Groups by Using Windows PowerShell
 - b. Using Windows PowerShell to Create User Accounts in Bulk
 - c. Using Windows PowerShell to Modify User Accounts in Bulk
- E. Implementing IPv4
 - 1. Overview of TCP/IP
 - 2. Understanding IPv4 Addressing
 - 3. Subnetting and Supernetting
 - 4. Configuring and Troubleshooting IPv4
 - 5. Lab: Implementing IPv4
 - a. Identifying Appropriate Subnets
 - b. Troubleshooting IPv4
- F. Implementing Dynamic Host Configuration Protocol
 - 1. Installing a DHCP Server Role
 - 2. Configuring DHCP Scopes
 - 3. Managing a DHCP Database

4. Securing and Monitoring DHCP
 5. Lab: Implementing DHCP
 - a. Implementing DHCP
 - b. Implementing a DHCP Relay Agent (Optional Exercise)
- G. Implementing Domain Name System
1. Name Resolution for Windows Client and Servers
 2. Installing and Managing a DNS Server
 3. Managing DNS Zones
 4. Lab: Implementing DNS
 - a. Installing and Configuring DNS
 - b. Creating Host Records in DNS
 - c. Managing the DNS Server Cache
- H. Implementing IPv6
1. Overview of IPv6
 2. IPv6 Addressing
 3. Coexistence with IPv6
 4. IPv6 Transition Technologies
 5. Lab: Implementing IPv6
 - a. Configuring an IPv6 Network
 - b. Configuring an ISATAP Router
- I. Implementing Local Storage
1. Overview of Storage
 2. Managing Disks and Volumes
 3. Implementing Storage Spaces
 4. Lab: Implementing Local Storage
 - a. Installing and Configuring a New Disk
 - b. Resizing Volumes
 - c. Configuring a Redundant Storage Space
- J. Implementing File and Print Services
1. Securing Files and Folders
 2. Protecting Shared Files and Folders by Using Shadow Copies
 3. Configuring Network Printing
 4. Lab: Implementing File and Print Services
 - a. Creating and Configuring a File Share
 - b. Configuring Shadow Copies
 - c. Creating and Configure a Printer Pool
- K. Implementing Group Policy
1. Overview of Group Policy
 2. Group Policy Processing
 3. Implementing a Central Store for Administrative Templates
 4. Lab: Implementing Group Policy
 - a. Configuring a Central Store
 - b. Creating GPOs
- L. Securing Windows Servers Using Group Policy Objects
1. Windows Operating Systems Security Overview
 2. Configuring Security Settings
 3. Restricting Software
 4. Configuring Windows Firewall with Advanced Security

5. Lab: Increasing Security for Server Resources
 - a. Using Group Policy to Secure Member Servers
 - b. Auditing File System Access
 - c. Auditing Domain Logons
6. Lab: Configuring AppLocker and Windows Firewall
 - a. Configuring AppLocker Policies
 - b. Configuring Windows Firewall
- M. Implementing Server Virtualization with Hyper-V
 1. Overview of Virtualization Technologies
 2. Implementing Hyper-V
 3. Managing Virtual Machine Storage
 4. Managing Virtual Networks
 5. Lab: Implementing Server Virtualization with Hyper-V
 - a. Installing the Hyper V Role onto a Server
 - b. Configuring Virtual Networking
 - c. Creating and Configuring a Virtual Machine
 - d. Using Virtual Machine Snapshots

IV. **Course Assignments:**

A. Reading Assignments

1. Textbook readings and online supporting webpages to inform the student on setting up Windows 2012, implementing Active Directory, issuing IP address leases, performing name resolutions, configuring AppLocker and Windows Firewalls.

B. Projects, Activities, and other Assignments

1. Hands-on lab assignments in the Microsoft computer lab or on the Microsoft eLearning virtual lab site installing and configuring Active Directory, DHCP, DNS, File server using Microsoft Windows Server 2012. Troubleshooting non expected outcomes.

C. Writing Assignments

1. Worksheets and Lab Reports to support the lab assignments and document the results of those lab assignments.

V. **Methods of Evaluation:**

- A. Objective quizzes on: installing, configuring, managing, supporting a secure network infrastructure and implementing fault tolerant storage technologies that use the Microsoft Windows Server products.
- B. Lab Projects to practice skills installing and configuring Active Directory, DHCP, DNS, File server using Microsoft Windows Server 2012
- C. Final comprehensive exam on installing, configuring, managing, supporting a secure network infrastructure and implementing fault tolerant storage technologies that use the Microsoft Windows Server products.
- D. Skills-based assessment (hands-on final exam) on implementing Active Directory, issuing IP address leases, performing name resolutions, configuring AppLocker and Windows Firewalls.

VI. **Methods of Instruction:**

- A. Lecture
- B. Laboratory
- C. Discussion
- D. Demonstration
- E. Web-enhanced

VII. Textbooks:

Recommended

1. Microsoft Official Academic Course *Installing and Configuring Windows Server 2012*
1st Edition, Wiley & Sons, Incorporated, 2013 ISBN: 9781118511077

Supplemental

VIII. Supplies:

Approval Date: 11/04/2013
CCC Number: CCC000525859
TOP Codes:
0708.10
C-ID Number: