

# BUTTE COLLEGE

## COURSE OUTLINE

### I. CATALOG DESCRIPTION

**CSCI 72 - Configuring Advanced Windows 2012 Server Services**

**3 Unit(s)**

**Prerequisite(s):** CSCI 71 or MCSA 70-411 certification

**Recommended Prep:** Reading Level IV; English Level IV; Math Level III

**Transfer Status:** CSU

34 hours Lecture

51 hours Lab

This course is the third in a three course series in which students learn the skills and knowledge necessary to implement a Windows Server 2012 infrastructure. The focus of the course is on the mastery of Advanced Windows Server 2012 Services including advanced management and maintenance a Windows Server 2012 infrastructure. The course also covers fault tolerance, certificate services, and identity federation services. The course prepares students for Microsoft certification exam 70-412, Configuring Advanced Windows Server 2012 Services exam.

### II. OBJECTIVES

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

- A. Configure and implement Advanced Network Services
- B. Configure and implement Advanced File Services
- C. Configure and implement Dynamic Access Control
- D. Configure and implement Network Load Balancing
- E. Configure and implement Failover Clustering
- F. Configure and implement Disaster Recovery
- G. Configure and implement Active Directory Certificate Services (AD CS)
- H. Configure and implement Active Directory Federation Services (AD FS)

### III. COURSE CONTENT

#### **A. Unit Titles/Suggested Time Schedule**

Lecture	
<u>Topics</u>	<u>Hours</u>
1. Configuring Network Load Balancing	2.00
2. Configuring and Managing Failover Clustering	2.00
3. Managing Virtual Machine Movement and Migration	2.00
4. Configuring Advanced File Services and Implementing Dynamic Access Control	2.00
5. Configuring and Optimizing Storage, Managing Backups and Recovering Servers	5.00
6. Configuring Site-Level Fault Tolerance	2.00
7. Implementing Advanced Dynamic Host Control Protocol (DHCP), and Advanced Domain Name Services (DNS) Solutions	3.00
8. Deploying and Managing Internet Protocol Address Management (IPAM)	2.00
9. Configuring a Domain and Forests, Trusts, and Sites	5.00
10. Managing Active Directory and System Volume (SYSVOL) Replication	2.00
11. Implementing Active Directory Federation Services	3.00

12. Installing, Configuring and Managing Active Directory Certificate and Rights Management Services	4.00
Total Hours	34.00

#### Lab

<u>Topics</u>	<u>Hours</u>
1. Configuring Network Load Balancing	2.00
2. Configuring and Managing Failover Clustering	4.00
3. Managing Virtual Machine Movement and Migration	3.00
4. Configuring Advanced File Services and Implementing Dynamic Access Control	4.00
5. Configuring and Optimizing Storage, Managing Backups and Recovering Servers	8.00
6. Configuring Site-Level Fault Tolerance	3.00
7. Implementing Advanced DHCP, and Advanced DNS Solutions	6.00
8. Deploying and Managing IPAM	2.00
9. Configuring a Domain and Forests, Trusts, and Sites	7.00
10. Managing Active Directory and SYSVOL Replication	3.00
11. Implementing Active Directory Federation Services	2.00
12. Installing, Configuring and Managing Active Directory Certificate and Rights Management Services	7.00
Total Hours	51.00

#### IV. **METHODS OF INSTRUCTION**

- A. Lecture
- B. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
- C. Demonstrations
- D. Multimedia Presentations
- E. Practical Exercises

#### V. **METHODS OF EVALUATION**

- A. Lab Projects
- B. Written Assignments
- C. Written Examinations
- D. Practical Evaluations

#### VI. **EXAMPLES OF ASSIGNMENTS**

- A. Reading Assignments
  - 1. Read the procedure for implementing a disaster recovery scheme. Using the handout provided by the instructor, create a disaster recovery scheme and summarize the back up, recovery, and access methods. Be prepared to demonstrate the procedure and steps in class on your server.
  - 2. Read a TechNet whitepaper on iSCSI. Consider the implications of a compromised iSCSI host. What are the security ramifications and liability issues? Prepare to discuss in class.
- B. Writing Assignments
  - 1. List the steps required to install an Enterprise Certificate Authority (CA) and write a 1-2

- page summary of backup and recovery procedures for an Enterprise CA.
2. Using a hypothetical enterprise provided by your instructor, prepare a 1-page outline of a procedure to implement fault tolerance and redundancy for the enterprise. Your outline must include your reasoning (2-3 sentences per step) behind each step in the procedure.
- C. Out-of-Class Assignments
1. Visit the website of VeriSign or another Certificate Authority (CA). Take notes on the services provided and be prepared to discuss what you learned in class.
  2. Research best practices for Active Directory (AD) replication across large geographical areas. Consider the influence of environmental factors (such as weather), network infrastructure limitations, and geopolitical issues. Be prepared to present your findings to the class.

## VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

- A. Microsoft Official Academic Course. 70-412 Configuring Advanced Windows Server 2012R2 Services. Wiley, 2014.

**Created/Revised by:** Linda Fischer

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