

CUMBERLAND COUNTY COLLEGE

Course: CS 228 Active Directory Design and Implementation

Credits: 4

Prerequisites: CS 275

Description:

Students are introduced to the principles of Active Directory structure, administration, configuration and maintenance.

Learning Outcomes

At the completion of this course, students will be able to:

- Design a forest and domain
- Design a site infrastructure
- Design a Group Policy structure
- Design an administrative structure
- Design a physical network structure that supports Active Directory
- Design a Dynamic Host Configuration Protocol (DHCP) structure
- Create a design for network connectivity that supports Active Directory
- Design a name resolution strategy that supports Active
- Design a network access infrastructure that supports Active Directory

Topical Outline

Module 1: Introduction to Designing an Active Directory

This module introduces general design principles and the process of designing a Windows Server Active Directory infrastructure.

Module Objectives

After completing this module, students will be able to:

- Explain basic design principles.
- Describe the process of and the tasks involved in designing an Active Directory infrastructure.

Module 2: Designing a Forest and Domain Infrastructure

This module covers the first major design decisions when creating an Active Directory and network infrastructure the Active Directory logical structure and the design of forests and domains. Key elements of the forest and domain design are naming and in the case of a multiple-forest design, trusts.

Module Objectives

After completing this module, students will be able to:

- Gather and analyze the information that you need to design a forest and domain infrastructure.
- Create a logical forest design.
- Create a domain design.
- Design a DNS namespace strategy for forests and domains.
- Create a trust strategy for forests.

Module 3: Designing a Site Infrastructure

This module explains how to design a site topology to organize the Windows Server Network.

Module Objectives

After completing this module, students will be able to:

- Determine the information needed to design a site infrastructure.
- Create a site design.
- Modify the site design for replication.
- Determine the placement of domain controllers in the site design.
- Determine the placement of global catalog servers in the site design.
- Determine the placement of single operations masters in the site design.

Module 4: Designing the Administrative Structure

This module explains how to design your administrative structure to delegate authority and simplify administrative overhead and design an organizational unit structure.

Module Objectives

After completing this module, students will be able to:

- Determine the information needed to design an administrative structure.
- Design a network administration model.
- Design an organizational unit structure.
- Design an account strategy.

Module 5: Designing for Group Policy

This module describes how to design a Group Policy structure and integrate the structure into an organizational unit design. It describes the role of Group Policy in the Active Directory infrastructure and factors in choosing particular implementations, such as security, software deployment, and administrative requirements.

Module Objectives

After completing this module, students will be able to:

- Determine the information needed to design for Group Policy.
- Design a Group Policy structure.
- Create an organization unit (OU) structure for Group Policy.
- Create a Group Policy management design.

Module 6: Designing the Physical Network

This module describes how to design the physical network. It explains how to design a connectivity infrastructure, with considerations for intrasite and intersite connectivity, router placement, connection types, and virtual private networks (VPNs). The students will create a physical network according to a scenario.

Module Objectives

After completing this module, students will be able to:

- Explain the preparation necessary to design a network infrastructure.
- Create an IP addressing scheme.
- Design a DHCP infrastructure.

Module 7: Designing for Network Connectivity

This module describes how to design networking services for connectivity and protocol requirements for organizations. Also, this module describes networking solutions that establish a network foundation, provide access to public networks, and support network based applications and authentication methods.

Module Objectives

After completing this module, students will be able to:

- Determine the information that you need to design for network connectivity.
- Evaluate connection types.
- Design a connectivity infrastructure.
- Create a design for Internet connectivity.

Module 8: Designing a Name Resolution Strategy

This module describes the relationship between Active Directory and DNS domain names, Windows Internet Name Service (WINS), and other name-resolution strategies.

Module Objectives

After completing this module, students will be able to:

- Determine the information needed to design a name-resolution strategy.
- Design a strategy for interoperability with Active Directory, WINS, and DHCP.

- Design a WINS replication strategy.
- Design a name resolution strategy for clients.

Module 9: Designing the Network Access Infrastructure

This module describes how to design a network access infrastructure by gathering relevant data, and then analyzing and using that data to design for network access security, remote access, and wireless access. The module includes strategies for authentication, administration, access monitoring, interoperability, and user education.

Module Objectives

After completing this module, students will be able to:

- Gather data for network access design.
- Design network access security.
- Choose remote access methods.
- Design a remote access infrastructure.
- Design a wireless access infrastructure

Text:

Exam 70-413 Designing and Implementing a Server Infrastructure Lab Manual by Microsoft Official Academic Course ,ISBN-13: 978-1118789155, ISBN-10:1118789156.

Student Assessment

(Assessment may be accomplished through projects, portfolios, exams, presentations and/or papers)

Academic Integrity

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation.

Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense.

As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

Tutoring & Project Assist

If you are having difficulty with work in this class tutoring is available through the Center for Academic & Student Success. If you think that you might have a learning disability, contact Project Assist at 856.691.8600 x 1282 for information on assistance that can be provided to eligible students.

Before Withdrawing From This Course

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA which can limit or eliminate future financial aid in addition to causing academic suspension.