

**INVER HILLS COMMUNITY COLLEGE  
INVER GROVE HEIGHTS, MINNESOTA**

**COURSE OUTLINE**

**COURSE TITLE:** Implementing Active Directory Services  
**COURSE NUMBER:** CNT 2440  
**CREDIT HOURS:** 2 hours of lecture weekly  
**DEPARTMENT:** Computer Networking and Technology

**CATALOG DESCRIPTION**

**CNT 2440**

Implementing Active Directory Services

2 credit hours – Two hours of lecture weekly; one term

Provides students with the knowledge and skills to successfully plan, implement, and troubleshoot a Microsoft Windows Active Directory® directory service infrastructure. The course focuses on the forest and domain structure, Domain Name System (DNS), site topology and replication, organizational unit structure and delegation of administration, group policy, and user, group, and computer account strategies.

Prerequisites: CNT 2430

**LEARNING OBJECTIVES**

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

- a. Describe the logical and physical components of Active Directory.
- b. Create and configure a forest and domain structure by using an Active Directory infrastructure design.
- c. Plan and implement an organizational unit structure.
- d. Plan and implement Active Directory user, group, and computer accounts.
- e. Plan and implement a Group Policy strategy to centrally manage users and computers in an enterprise.
- f. Deploy, manage, and troubleshoot software that is deployed using Group Policy.
- g. Implement sites to manage and monitor Active Directory replication.
- h. Plan and implement the placement of domain controllers, global catalog servers, and DNS servers that are integrated with Active Directory.
- i. Plan and manage operations masters.
- j. Back up, restore, and maintain Active Directory.
- k. Plan and implement an Active Directory infrastructure that is based on a directory service design that an enterprise architect provides.

**DIVISION OF SUBJECT MATTER**

<b><u>Main Topic</u></b>	<b><u>Time Allocation</u></b>
1.0 Introduction to active directory infrastructure	5%
2.0 Implementing an active directory forest and domain structure	10%
3.0 Working with Active Directory Sites	5%
4.0 Global Catalog and Flexible Single Master Operations (FSMO) Roles	10%
5.0 Active Directory Administration	5%
6.0 Security Planning and Administrative Delegation	10%
7.0 Introduction to Group Policy	10%
8.0 Configuring the User and Computer Environment Using Group Policy	10%
9.0 Managing Software	10%
10.0 Planning a Group Policy Management and Implementation Strategy	10%

**INVER HILLS COMMUNITY COLLEGE  
INVER GROVE HEIGHTS, MINNESOTA**

11.0 Active Directory Maintenance, Troubleshooting, and Disaster Recovery	10%
12.0 Upgrading and Migrating to Windows Server 2003	5%

**DETAILED COURSE OUTLINE**

- 1.0 Introduction to active directory infrastructure
  - 1.1 Describe the components of Active Directory, including forests, sites, domains, domain trees, and organizational units (OUs)
- 2.0 Implementing an active directory forest and domain structure
  - 2.1 Understand the role of the Domain Name System (DNS) in an Active Directory environment
  - 2.2 Understand and assess the domain and forest functional levels according to the needs of an organization's network environment
  - 2.3 Understand the trust models used by Active Directory and their role in resource accessibility
- 3.0 Working with Active Directory Sites
  - 3.1 Determine a site strategy based on the physical network infrastructure
  - 3.2 Use Active Directory Sites And Services (MMC snap-in) to configure replication
  - 3.3 Optimize and monitor replication
- 4.0 Global Catalog and Flexible Single Master Operations (FSMO) Roles
  - 4.1 Plan the placement of global catalog servers
  - 4.2 Understand and enable universal group caching
  - 4.3 Understand and plan FSMO role placement
  - 4.4 Troubleshoot FSMO role issues
- 5.0 Active Directory Administration
  - 5.1 Understand, plan, and implement local, global, domain local, and universal groups
  - 5.2 Understand, plan, and implement group nesting
  - 5.3 Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure
  - 5.4 Use appropriate scripting tools to modify, create, and delete multiple users and groups
- 6.0 Security Planning and Administrative Delegation
  - 6.1 Understand, plan, and implement smart cards
  - 6.2 Use the Run As program to perform administrative tasks
  - 6.3 Plan and implement an organizational unit strategy based on administrative and business goals
- 7.0 Introduction to Group Policy
  - 7.1 Understand and implement Group Policy planning guidelines
  - 7.2 Describe local and non-local group policies
  - 7.3 Describe the Default Domain Policy and the Default Domain Controllers Policy
  - 7.4 Use various tools to view and modify group policy settings
  - 7.5 Explain group policy processing during computer startup and user logon
  - 7.6 Describe the techniques that can be used to alter the inheritance of group policies
  - 7.7 Analyze a set of policies and determine effective policies
- 8.0 Configuring the User and Computer Environment Using Group Policy
  - 8.1 Understand and apply security settings to users and computers
  - 8.2 Use Group Policy to create a request for a computer or user certificate
  - 8.3 Understand and implement folder redirection and offline files
  - 8.4 Understand and implement disk quotas using Group Policy
  - 8.5 Understand the policy refresh process and use Gpupdate to force the refresh of a policy

**INVER HILLS COMMUNITY COLLEGE  
INVER GROVE HEIGHTS, MINNESOTA**

9.0 Managing Software

- 9.1 Use Group Policy to install, manage, and maintain software applications
- 9.2 Define and configure Software Restriction Policies

10.0 Planning a Group Policy Management and Implementation Strategy

- 10.1 Filter the scope of a GPO
- 10.2 Use the Group Policy Management Console (GPMC) to manage GPOs
- 10.3 Use RSoP, GPREsult, and Group Policy Management to manage group policies
- 10.4 Delegate control of a GPO

11.0 Active Directory Maintenance, Troubleshooting, and Disaster Recovery

- 11.1 Define and implement procedures used for Active Directory backup and restore
- 11.2 Understand and explain the primary, normal, and authoritative restore processes
- 11.3 Explain the defragmentation process and understand the differences between an offline and an online defragmentation
- 11.4 Implement guidelines and procedures for monitoring Active Directory
- 11.5 Use System Monitor and Event Viewer to monitor Active Directory and File Replication services
- 11.6 Differentiate and choose the appropriate tools for diagnosing Active Directory problems

12.0 Upgrading and Migrating to Windows Server 2003

- 12.1 Define the upgrade and migration paths available
- 12.2 Explain the difference between an Interforest and Intraforest migration
- 12.3 Understand the required steps to upgrade or migrate from Windows NT 4.0 to Windows Server 2003
- 12.4 Associate migration tools that are available with the tasks they can be used to perform
- 12.5 Explain the process and recommended order for upgrading Windows NT 4.0 domains
- 12.6 Explain the necessary security privileges for migrating between two forests
- 12.7 Explain the necessary requirements for migrating SIDHistory information to the target domain

**TEXT BOOKS**

**TITLE:** Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure (70-294)  
**AUTHOR:** Wendy Corbin  
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