## Designing a Network Directory Infrastructure (ITNW 2356)

**Credit:** 3 semester credit hours (2 hours lecture, 4 hours lab)

**Prerequisite/Co-requisite:** None

## Course Description
Design, implement, and support a network directory infrastructure in a multi-domain environment.

## Required Textbook and Materials
1. *70-640: Windows Server 2008 Active Directory Configuration, Package,* Microsoft Official Academic Course, Wiley, 2008.

    a. ISBN number is 978-0-470-13330-9

2. A package of #882 Scantrons and #2 pencils.

3. A portable external Hard Drive with a capacity of 200GB or larger.

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

1. Describe the process for designing a directory services infrastructure and a network infrastructure that supports directory services. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F 1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)

2. Design a site infrastructure that meets the needs of an organization. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F 1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)

3. Design an administrative structure that meets the needs of an organization. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F 1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)

4. Design a Dynamic Host Configuration Protocol (DHCP) structure that supports directory services. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F 1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)

5. Design a name resolution strategy that supports directory services. (SCANS: C1, C3, C5, C6, C7, C8, C11, C15, C16, C17, C18, C19, C20, F 1, F2, F5, F6, F7, F8, F9, F10, F11, F12, F13, F16, F17)

## SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor **S**ecretary's **C**ommission on **A**chieving **N**ecessary **S**kills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work

settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools.* In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

## Course Outline

A. Overview of Active Directory Domain Services
   1. Introducing Active Directory Domain Services
   2. Introducing Active Directory Design

B. Implementing Active Directory
   1. Introducing the server Manager
   2. Designing an Active Directory Implementation

C. Working with Active Directory Sites
   1. Introducing Active Directory Sites
   2. Managing Replication

D. Global Catalog and Flexible Single Master Operations (FSMO) Roles
   1. Understanding Global Catalog
   2. Understanding Flexible Single Master Operations (FSMO) Roles

E. Active Directory Administration
   1. Understanding User Accounts
   2. Understanding Groups

F. Security Planning and Administrative Delegation
   1. Planning and Implementing Account Security
   2. Planning an Organizational Unit Strategy

G. Introduction to Group Policy
   1. Introducing Group Policy
   2. Using the Group Policy Management Console

H. Configuring the User and Computer Environment Using Group Policy
   1. Configuring Security Policies Using Group Policy Objects
   2. Managing Security Policies Using Group Policy Objects

I. Performing Software Installation with Group Policy
   1. Managing Software through Group Policy
   2. Customizing Software Installation Packages

J. Planning a Group Policy Management and Implementation Strategy
   1. Implementing Group Policy
   2. Managing Group Policy

K. Active Directory Maintenance, Troubleshooting and Disaster Recovery
   1. Maintaining Active Directory
   2. Monitoring Active Directory
   3. Diagnosing and Troubleshooting Active Directory

L. Configuring Name Resolution and Additional Services
   1. DNS Name Resolution
   2. Configuring DNS Servers

M. Configuring Active Directory Certificate Services
   1. Introducing Active Directory Certificate Services
   2. Managing Certificate Servers

## Grade Scale

| | |
|---|---|
| 90 – 100 | A |
| 80 – 89 | B |
| 70 – 79 | C |
| 60 – 69 | D |
| 0 – 59 | F |

## Course Evaluation
Final grades will be calculated according to the following criteria:

    1. Labs                                     30%

    2. Study Guides                  10%

    3. Chapter Tests               30%

    4. Final Exam                  30%

## Course Requirements
1. Demonstrate proficiency through hands-on labs as assigned.
2. Complete Study Guides and work sheets as assigned.

## Course Policies
1. No food, drinks, or use of tobacco products in class.
2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
3. Do not bring children to class.
4. No late assignments will be accepted.
5. Certification. If a student passes the certification test that is associated with this class, you will receive an "A" on the final exam and credit for 25% of your labs. If you have missed a previous test, you must still take the final exam to substitute for that grade.
6. Attendance Policy. Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2 point deduction from your final grade.
7. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
8. Labs. Due dates will be announced by the instructor.
9. Tools. Return all tools and/or software to their designated place.
10. A grade of 'C' or better must be earned in this course for credit toward degree requirement.
11. Additional class policies as defined by the individual course instructor.

## Disabilities Statement
The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please

contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

## Course Schedule

| Week of | Topic | Reference |
|---|---|---|
| Week 1 | Syllabus and policies<br>Course Introduction<br>Introduction to Virtual Labs | |
| Week 2 | Chapter 1:  Overview of Active Directory Domain Services | pp.  1-20<br>Lab 1 |
| Week 3 | Chapter 2:  Implementing Active Directory | pp. 21–58<br>Lab 2 |
| Week 4 | Chapter 3: Working with Active Directory Sites | pp. 59-78<br>Lab 3 |
| Week 5 | Chapter 4: Global Catalog and Flexible Single Master Operations (FSMO) Roles | pp. 79-100<br>Lab 4 |
| Week 6 | Chapter 5: Active Directory Administration | pp. 101-124<br>Lab 5 |
| Week 7 | Chapter 6:  Security Planning and Administrative Delegation | pp. 125-137<br>Lab 6 |
| Week 8 | Chapter 6: Security Planning and Administrative Delegation | pp. 125-137<br>Lab 6 |
| Week 9 | Chapter 7: Introduction to Group Policy | pp. 138-154<br>Lab 7 |
| Week 10 | Chapter 8:  Configuring the User and Computer Environment Using Group Policy | pp. 155-180<br>Lab 8 |
| Week 11 | Chapter 9:  Performing Software installation with Group Policy | pp. 181-201<br>Lab 9 |
| Week 12 | Chapter 10: Planning a Group Policy Management and Implementation Strategy | pp. 202-220<br>Lab 10 |
| Week 13 | Chapter 11: Active Directory Maintenance, Troubleshooting and Disaster Recovery | pp. 221-243<br>Lab 11 |
| Week 14 | Chapter 12: Configuring Name Resolution and Additional Services | pp. 244-266<br>Lab 12 |

| Week of | Topic | Reference |
|---------|-------|-----------|
| Week 15 | Configuring Active Directory Certificate Services | pp. 267-291<br>Lab 13 |
| Week 16 | Course Review and Lab Completion | pp. 1-287<br>Labs 1 thru 11 |