



**MERCER**  
COUNTY COMMUNITY COLLEGE

# COURSE OUTLINE

Course Number	Course Title	Credits
NET126	Network Directory Services Administration	3
Hours: Lecture/Lab/Other	Co- or Pre-requisite	Implementation Semester & Year
2/2/0	NET122	Fall 22

**Catalog description:**

Students plan, configure, and administer a directory services infrastructure. Includes DNS configuration, administering user environments with group policy, remote OS deployment using RIS, and centrally managing users, groups, shared folders, and network resources. Covers implementing and troubleshooting security as well as monitoring and optimizing directory services performance. Hands-on exercises reinforce Microsoft certification exam objectives.

**General Education Category:**  
Not GenEd

**Course coordinator:**  
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**Required texts & Other materials:**

TESTOut Web Material ISBN:( 978-1-935080-68-8)

**Course Student Learning Outcomes (SLO):**

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

1. Administer Active Directory, including tasks and tools, Microsoft Management Console (MMC) and Task Scheduler [Supports ILG # 4; PLO # 1, 3]
2. Implement Active Directory, including planning, installing, understanding Operations Master Roles, and Organizational Unit structure. [Supports ILG # 4,9; PLO # 2, 4 ]
3. Integrate AD with Domain Name Service (DNS), including understanding DNS Name resolution, understanding and configuring Zones, Zone replication and transfer, and general monitoring and troubleshooting. [Supports ILG # 4 ; PLO # 3, 5 ]
4. Configure AD Sites, including configuring Site settings, Inter-Site replication, replication troubleshooting, and managing and maintaining server settings. [Supports ILG # 4,11; PLO #4, 6 ]
5. Administer User Accounts, including planning and creating, creating User Profiles and Home Directories, and general maintenance. [Supports ILG # 2, 9; PLO #3, 7 ]
6. Administer Group Accounts, including planning and creating, understanding Default Groups, and special Administrator Groups. [Supports ILG # 9, 11 ; PLO # 5, 7]
7. Secure network resources, including understanding and implementing NTFS permissions, special permissions, copying and moving files and folders, and troubleshooting permission problems. [Supports ILG # 4, 9,11; PLO # 5, 6, 7]

**Course-specific Institutional Learning Goals (ILG):**

**Institutional Learning Goal 2. Mathematics.** Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

**Institutional Learning Goal 4. Technology.** Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

**Institutional Learning Goal 9. Ethical Reasoning and Action.** Students will understand ethical frameworks, issues, and situations.

**Institutional Learning Goal 11. Critical Thinking:** Students will use critical thinking skills understand, analyze, or apply information or solve problems.

## **Program Learning Outcomes for Network Directory Services Administration (PLO)**

1. Configure network load balancing, configure and manage failover clustering
2. Manage VM movement ,configure advanced file services
3. Implement dynamic access control, configure and optimize storage NET126 Network Directory Services Administration
4. Configure and manage backups, recover servers, configure site level fault tolerance
5. Implement advanced DHCP and DNS solutions, deploy and manage IPAM, configure a Domain and a Forest
6. Configure trusts, configure Sites, manage AD and SYSVOL replication
7. Implement Federation Services, install, configure, and manage AD Certificate Services

## **Units of study in detail – Unit Student Learning Outcomes:**

### **Unit I [Unit I Introduction/Install Active Directory] [Supports Course SLO # 1]**

#### **Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- Server Pro 2016: Identity Introduction
- Using the Lab Simulator
- Explore Multiple Hyper-V
- Active Directory Overview
- Install Active Directory
- Install Additional Domain Controllers
- Read-Only Domain Controllers (RODCs)
- Domain Controller Cloning

### **Unit II [Unit II Plan Active Directory] [Supports Course SLOs # 2]**

#### **Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- Active Directory Sites
- FSMO Roles and Global Catalog Servers
- Active Directory Replication
- Active Directory Trusts

### **Unit III [Unit III Manage Active Directory Objects] [Supports Course SLO # 3]**

#### **Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- Active Directory Organizational Units
- Active Directory Computers
- Active Directory User
- Active Directory Groups
- Active Directory Service Accounts
- Active Directory Bulk Operations
- Delegation of Control

### **Unit IV [Unit IV Managing the Active Directory Database] [Supports Course SLO # 4 ]**

#### **Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- Active Directory Backup and Restore
- Manage the Active Directory Database
- Functional Levels

**Unit V** [Unit V Group Policy] [Supports Course SLO # 5 ]

**Learning Objectives**

***The student will be able to...: Explain and Demonstrate***

- Group Policy Overview
- Group Policy Inheritance
- Deploy Software with Group Policy
- Manage Windows Settings with Group Policy
- Manage Security Settings with Group Policy
- Managing Passwords with Group Policy
- Group Policy Administrative Templates
- Group Policy Preferences
- Group Policy Backup
- Troubleshooting Group Policy

**Unit VI** [Unit VI AD Certificate Services] [Supports Course SLO # 6]

**Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- Install AD Certificate Services
- Managing Certificates
- Certificate Enrollment
- Certificate Revocation
- Certificate Services Administration
- Key Archival and Recovery
- Back Up and Recover Certificate Services

**Unit VII** [Unit VII Active Directory Federation Services (AD FS)] [Supports Course SLO # 3 ]

**Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- AD FS Installation
- AD FS Trusts
- Device Registration and Multi-Factor Authentication
- AD FS Integration
- Implement Web Application Proxy (WAP)

**Unit VIII** [Unit VIII Active Directory Rights Management Services (AD RMS)] [Supports Course SLO # 5, 7]

**Learning Objectives**

***The student will be able to... Explain and Demonstrate***

- AD RMS Installation
- AD RMS Templates
- AD RMS Exclusions
- AD RMS Back Up and Restore

## **Evaluation of student learning:**

**Evaluation of student learning:** [Evaluates SLOs #1, 2, 3, 4, 7]

Students' achievement of the course objectives evaluated through use of the following:

- TESTOut Lab assignments assessing students' hardware comprehension skills related to the unit objectives.
- TESTOut Lab Chapter quizzes assessing students' comprehension of software computer concepts related to the unit objectives.
- Research and Final Research presentation assessing students' comprehension through the use of word, PowerPoint and graphics to demonstrate knowledge
- Basic programming Labs and Quizzes assignments assessing students' basic comprehension of hardware functions and skills related to the unit objectives.
- Exams and Final Research Presentation assessing students' comprehension of computer concepts and applications related to the unit objectives.

## Grade Criteria

<b>Item</b>	<b>Percent</b>	<b>Description</b>
TESTOut Labs	10%	Activity-based lab Assignment in Excel
TESTOut Quizzes	10%	15 Question quiz for each unit of Computer Concepts
Exams	35%	3 Assignment based on your IT Topics leading to the final project
Final Research Presentation	45%	Professional Presentation