# Washtenaw Community College Comprehensive Report

## CNT 227 Administrating Windows Server Hybrid
## Effective Term: Fall 2025

## Course Cover

**College:** Business and Computer Technologies
**Division:** Business and Computer Technologies
**Department:** Computer Science & Information Technology
**Discipline:** Computer Networking Technology
**Course Number:** 227
**Org Number:** 13400
**Full Course Title:** Administrating Windows Server Hybrid
**Transcript Title:** Administrating Windows Server
**Is Consultation with other department(s) required:** No
**Publish in the Following:** College Catalog , Time Schedule , Web Page
**Reason for Submission:** New Course
**Change Information:**
**Rationale:** Overhaul of 223 due to retired certification course content
**Proposed Start Semester:** Fall 2025
**Course Description:** In this course, students will configure, manage, and maintain Windows Server workloads in on-premises, hybrid, and Infrastructure as a Service (IaaS) platforms. Topics include integrating Windows Server environments with Azure services and managing Windows Server in on-premises networks. Additionally, students will deploy, package, secure, update, and configure Windows Server workloads using on-premises, hybrid, and cloud technologies. Administrative tools and technologies such as Windows Admin Center, PowerShell, Azure Arc, Azure Policy, Azure Monitor, Azure Automation Update Management, Microsoft Defender for Identity, Microsoft Defender for Cloud, and IaaS virtual machine (VM) administration will be used in this course.

## Course Credit Hours

**Variable hours:** No
**Credits:** 4
**Lecture Hours: Instructor:** 60 **Student:** 60
**Lab: Instructor:** 0 **Student:** 0
**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 60 **Student:** 60
**Repeatable for Credit:** NO
**Grading Methods:** Letter Grades
**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

## College-Level Reading and Writing

College-level Reading & Writing

## College-Level Math

No Level Required

## Requisites

**Prerequisite**
CNT 211 minimum grade "C-"

## General Education

## Request Course Transfer
    **Proposed For:**

## Student Learning Outcomes

1. Identify appropriate identity infrastructure using Active Directory Domain Services (AD DS), Group Policy Objects, and hybrid identity with Windows Server.
   **Assessment 1**
   Assessment Tool: Outcome-related multiple-choice and scenario-based exam questions
   Assessment Date: Winter 2028
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Answer key and departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

2. Recognize best practices for streamlining the administration of Windows Server with Just Enough Administration (JEA) in a hybrid environment.
   **Assessment 1**
   Assessment Tool: Outcome-related multiple-choice and scenario-based exam questions
   Assessment Date: Winter 2028
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Answer key and departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

3. Recognize the steps for deploying and configuring Azure Infrastructure as a Service Virtual Machine (VM) workloads using Windows Server virtual machines and container workloads using Windows Server Hyper-V.
   **Assessment 1**
   Assessment Tool: Outcome-related multiple-choice and scenario-based exam questions
   Assessment Date: Winter 2028
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Answer key and departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

4. Recognize proper management of Windows Server file servers and storage through effective use of configuration and file services.
   **Assessment 1**
   Assessment Tool: Outcome-related multiple-choice and scenario-based exam questions
   Assessment Date: Winter 2028
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Answer key and departmentally-developed rubric

Standard of success to be used for this assessment: 70% of students will score 70% or higher.
Who will score and analyze the data: Departmental faculty

## Course Objectives

1. Deploy Active Directory Domain Controller in Azure.
2. Configure Multi-Site, Multi-Domain, and Multi-Forest Environments.
3. Create AD DS Security Principals.
4. Implement hybrid identities.
5. Manage Windows Server by using Domain-Based Group Policies.
6. Manage Windows Servers in a Hybrid Environment.
7. Manage Windows Servers and workloads by using Azure services.
8. Manage Hyper-V and Guest Virtual Machines.
9. Create containers.
10. Manage Azure virtual machines that run Windows Server.
11. Implement On-Premises and Hybrid Name Resolution.
12. Manage IP Addressing in On-Premises and Hybrid Scenarios.
13. Implement On-Premises and Hybrid Network Connectivity.
14. Configure Azure File Sync.
15. Configure Windows Server File Shares.
16. Configure Windows Server storage.

## New Resources for Course

## Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

## Equipment/Facilities

| Reviewer | Action | Date |
|---|---|---|
| **Faculty Preparer:** | | |
| *Michael Kidd* | *Faculty Preparer* | *Mar 10, 2025* |
| **Department Chair/Area Director:** | | |
| *Scott Shaper* | *Recommend Approval* | *Mar 10, 2025* |
| **Dean:** | | |
| *Eva Samulski* | *Recommend Approval* | *Mar 10, 2025* |
| **Curriculum Committee Chair:** | | |
| *Randy Van Wagnen* | *Recommend Approval* | *Apr 24, 2025* |
| **Assessment Committee Chair:** | | |
| *Jessica Hale* | *Recommend Approval* | *Apr 26, 2025* |
| **Vice President for Instruction:** | | |
| *Brandon Tucker* | *Approve* | *Apr 28, 2025* |