

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
Computer Information Technology Program
Revision Date: November 10, 2025

I. CATALOG DESCRIPTION

Course Number: INFO2595
Course Title: Advanced Windows Server
Prerequisite(s): INFO1494
Catalog Description: In-depth coverage of planning, implementing, configuring, maintaining, monitoring, and troubleshooting an Active Directory infrastructure using Windows Server. Topics include but are not limited to Remote Access (both Cloud and On-Prem), Server and end device hardening, Clustering and High Availability, Disaster Recovery, Certificate Authority, Server Migration, Network Monitoring, and Group Policy.
Credit Hours: 2
Class Hours: 30
Lab Hours: 0
Total Contact Hours: 30

II. COURSE OBJECTIVES: *Course will:*

- A. Describe the installation, creation, and management of Active Directory and Forest related objects.
- B. Explain how to implement Group Policies to manage user and computer configurations.
- C. Describe how to configure Active Directory roles.
- D. Continue the discussion of network management using a cloud tool for both cloud and on-prem devices.
- E. Discuss clustering as it applies to servers.
- F. Discuss high availability as it applies to servers.
- G. Explain and implement server and network security.
- H. Explore and implement Disaster Recovery.
- I. Present and allow students to practice using network monitoring tools.
- J. Introduce the use of certificates and configure a certificate authority
- K. Introduce the concept of Single Sign-On (SSO)

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Describe the roles of a directory service and different security models available along with the roles Windows Server can perform in each.
 - 2. Plan an Active Directory forest, domain and organization unit naming conventions.
 - 3. Describe the objects and components of Active Directory, and how these objects relate to the physical structure of the network.
 - 4. Demonstrate an understanding of desktop management, security management, software management, and troubleshooting of a Group Policy.
 - 5. Demonstrate the ability to implement a high throughput, high reliability, and redundant server system.
 - 6. Manage an on-prem/cloud network using cloud management tools.
 - 7. Configure a certificate authority.

- 8. Plan for and implement disaster recovery.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #3: Critical Thinking & Problem Solving
 - Outcome 2: Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE

- A. Installation of Active Directory
 - 1) Install the Server OS
 - 2) Create a new forest
 - 3) Add all devices to a domain
- B. Securing the Network Devices
 - 1) Securing the Servers
 - 2) Securing the Clients
 - 3) Password Policies
 - 4) Storage Protection
- C. User and Service Account Configuration
 - 1) Management of User rights
 - 2) Protected Users
 - 3) Service Accounts
 - 4) Audit Policies
- D. Group Policy Configuration
- E. Clustering and High Availability
 - 1) Load Balancing
 - 2) Dual NIC Configuration
 - 3) Failover Clustering
 - 4) Highly Available Storage Spaces
- F. Disaster Recovery
 - 1) Create a backup recovery plan
 - 2) On-Prem (local) recovery
 - 3) Cloud recovery
- G. Server Migration
 - 1) Migrate On-Prem Servers to the Cloud
 - 2) Migrate from previous versions of Server software
- H. Network Monitoring
 - 1) Network Events
 - 2) Performance
 - 3) Tweaking System Configuration
- I. Active Directory Certificate Services Implementation
 - 1) Public Key Infrastructure (PKI)
 - 2) Deploying the Active Directory Certificate Services role (AD CS)

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Determined by the instructor(s) of the course
- B. Computer with Internet Access

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Course material presented in a web-based training format.
 - 2. Group discussions
 - 3. Engaged learning activities

VII. METHODS OF EVALUATION

- A.** Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 - 1.** Attendance and/or participation activities
 - 2.** Homework assignments and Research Projects
 - 3.** Exams

VIII. SPECIFIC COURSE REQUIREMENTS

- A.** This course will not qualify as a prerequisite if the student receives a final grade below a C (70%).