

STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK



## MASTER SYLLABUS

### CITA435 – Active Directory and Network Infrastructure

For available course numbers, contact the Registrar's Office at [registrar@canton.edu](mailto:registrar@canton.edu)

#### **CIP Code: 11.1002**

For assistance determining CIP Code, please refer to this webpage

<https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>

or reach out to Sarah Todd at [todds@canton.edu](mailto:todds@canton.edu)

**Created by: Stacia Smith**

**Updated by:**

**School: Canino School of Engineering  
Department: Decision and Graphic Media Systems  
Implementation Semester/Year: Fall 2026**

A. **TITLE:** Active Directory and Network Infrastructure

B. **COURSE NUMBER:** CITA435

C. **CREDIT HOURS (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity):**

# Credit Hours per Week	<b>3</b>
# Lecture Hours per Week	<b>3</b>
# Lab Hours per Week	<b>0</b>
Other per Week	<b>0</b>

D. **WRITING INTENSIVE COURSE:**

Yes	
No	X

E. **GER CATEGORY:**

Does course satisfy a GER category(ies)? If so, please select all that apply.

[1-2] Communication	
[3] Diversity: Equity, Inclusion & Social Justice	
[4] Mathematics & Quantitative Reasoning	
[5] Natural Science & Scientific Reasoning	
[6] Humanities	
[7] Social Sciences	
[8] Arts	
[9] US History & Civic Engagement	
[10] World History & Global Awareness	
[11] World Languages	

F. **SEMESTER(S) OFFERED:**

Fall	
Spring	
Fall and Spring	X

G. **COURSE DESCRIPTION:**

This course provides a foundational understanding of how centralized directory services support organizational computing environments. This course explores the logical and physical design of Active Directory environments, concepts, architecture, and administrative principles of Active Directory and its role in enterprise network infrastructure. Students will examine the components and functions of Active Directory Domain Services, including domains, forests, organizational units, users, groups, and Group Policy.

H. PRE-REQUISITES: CITA220 Data Communications and Network Technology  
CO-REQUISITES:

I. STUDENT LEARNING OUTCOMES:

Course Student Learning Outcome [SLO]	Program Student Learning Outcome [PSLO]	GER	ISLO & Subsets
a. Explain the structure and purpose of Active Directory within enterprise networks.	Documents & Information		2 [CA], 5
b. Describe the components of AD DS, including forests, domains, OUs, and trust relationships.	Documents & Information		2 [CA], 5
c. Discuss the function and configuration of Group Policy in managing user and computer settings.	Documents & Information		2 [CA], 5
d. Identify the role of DNS, DHCP, and other core services in supporting AD environments.	Documents & Information		2 [CA], 5

KEY	<u>Institutional Student Learning Outcomes</u> [ISLO 1 – 5]
ISLO #	ISLO & Subsets
1	<b>Communication Skills</b> Oral [O], Written [W]
2	<b>Critical Thinking</b> <i>Critical Analysis [CA], Inquiry &amp; Analysis [IA], Problem Solving [PS]</i>
3	<b>Foundational Skills</b> <i>Information Management [IM], Quantitative Lit./Reasoning [QTR]</i>
4	<b>Social Responsibility</b> <i>Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</i>
5	<b>Industry, Professional, Discipline Specific Knowledge and Skills</b>

J. APPLIED LEARNING COMPONENT:

Yes	X
No	

If yes, select [X] one or more of the following categories:

Non-Clinical Practicum	X	Community Service	
Internship		Civic Engagement	
Clinical Practicum		Creative Works/Senior Project	
Practicum		Research	

Service Learning		Entrepreneurship [program, class, project]	
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K. TEXTS: Various online resources such as SUNY Canton Library Books24x7

L. REFERENCES: N/A

M. EQUIPMENT: Technology Enhanced Classroom

N. GRADING METHOD: A-F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

P. DETAILED COURSE OUTLINE:

1. Introduction to Directory Services and Active Directory
  - A. Purpose of directory services in enterprise environments
  - B. Overview of Active Directory Domain Services
  - C. Benefits of centralized identity and resource management
  - D. Active Directory in the context of Windows Server and enterprise IT
2. Active Directory Logical Structure
  - A. Forests, domains, and trees
  - B. Organizational Units and administrative delegations
  - C. Domain vs. workgroup models
  - D. Naming conventions and design best practices
3. Domain Controllers, DNS, and DHCP in Active Directory Environments
  - A. Role of Domain Controllers
  - B. Role of DNS
  - C. Integration of DHCP with DNS
  - D. Best Practices for DHCP in domain environments
4. Users, Groups, and Computer Management
  - A. User account types and attributes
  - B. Security groups and distribution groups
  - C. Planning for role-based access
  - D. Add and remove a domain member computer
5. Group Policy Concepts, Planning, and Management
  - A. Purpose and function of group policies
  - B. Group policy objects and how they're applied
  - C. Local vs domain Group Policy Objects
  - D. Group Policy Objects filtering with security groups
6. Backup, Restore, and Disaster Recovery
  - A. Backup methods for Active Directory
  - B. Authoritative vs. non-authoritative restore
  - C. Disaster recovery planning for Active Directory environments
  - D. Business continuity considerations

Q. LABORATORY OUTLINE: