

**OAKTON COMMUNITY COLLEGE
GENERIC COURSE SYLLABUS**

I.	<u>COURSE PREFIX</u>	<u>COURSE NUMBER</u>	<u>COURSE NAME</u>	<u>CREDIT</u>	<u>LECTURE</u>	<u>LAB</u>
	CNS (Formerly LAN 116)	116	Microsoft Implementing and Maintaining Windows Network Infrastructure	4	3	2

II. PREREQUISITE:

CNS 111 (Formerly LAN 111) or LAN171, or consent of instructor, coordinator or program chair.

III. COURSE (CATALOG) DESCRIPTION:

This hands-on course provides students with the knowledge and skills necessary to implement, configure, manage, and maintain a Windows-based computer to operate in a Microsoft Windows Server network infrastructure. This course will cover the most recent release of Windows. The course is intended for students who are candidates pursuing the systems administrator and systems engineer track or who are responsible for implementing, managing, and maintaining server networking technologies. This is the fourth course in the Microsoft Certified Systems Administrator (MCSA) and Microsoft Certified Systems Engineer (MCSE) curriculum for Windows Server.

IV. LEARNING OBJECTIVES:

1. Understand the Transmission Control Protocol/Internet Protocol (TCP/IP) protocol architecture.
2. Convert Internet Protocol (IP) addresses between decimal and binary.
3. Calculate a subnet mask; create subnets using Variable-Length Subnet Mask (VLSM) and Classless Inter-Domain Routing (CIDR).
4. Configure a host to use a static IP address.
5. Assign IP addresses in a multiple subnet network.
6. Configure a host to obtain an IP address automatically.
7. Configure a host so that automatic private IP address configuration is disabled.
8. Configure a host to use name servers.
9. Configure routing by using the Routing and Remote Access service.
10. Allocate IP addressing by using DHCP.
11. Manage and monitor DHCP.
12. Resolve names and host names by using DNS; manage and monitor DNS.
13. Resolve network basic input/output system (NetBIOS) names by using WINS.
14. Secure network traffic by using IPsec and certificates.

V. ACADEMIC INTEGRITY:

Students and employees at Oakton Community College are required to demonstrate academic integrity and follow Oakton's Code of Academic Conduct. This code prohibits:

- cheating
- plagiarism (turning in work not written by you, or lacking proper citation)
- falsification and fabrication (lying or distorting the truth)

- helping others to cheat
- unauthorized changes on official documents
- pretending to be someone else or having someone else pretend to be you
- making or accepting bribes, special favors, or threats, and
- any other behavior that violates academic integrity.

There are serious consequences to violations of the academic integrity policy. Oakton's policies and procedures provide students a fair hearing if a complaint is made against you. If you are found to have violated the policy, the minimum penalty is failure on the assignment and, a disciplinary record will be established and kept on file in the office of the Vice President for Student Affairs for a period of 3 years.

Details of the Code of Academic Conduct can be found in the Student Handbook.

VI. OUTLINE OF TOPICS:

- A. Reviewing the Suite of TCP/IP Protocols
- B. Assigning IP Addresses in a Multiple Subnet Network
- C. Configuring a Client IP Address and for Name Resolution
- D. Isolating Common Connectivity Issues
- E. Configuring Routing by Using Routing and Remote Access
- F. Allocating IP Addressing by Using Dynamic Host Configuration Protocol (DHCP)
- G. Managing and Monitoring Dynamic Host Configuration Protocol (DHCP)
- H. Resolving Names
- I. Resolving Host Names by Using Domain Name System (DNS)
- J. Managing and Monitoring Domain Name System (DNS)
- K. Resolving NetBIOS Names by Using Windows Internet Name Service (WINS)
- L. Securing Network Traffic by Using IPsec and Certificates
- M. Configuring Network Access
- N. Managing and Monitoring Network Access

VII. METHODS OF INSTRUCTION:

The course will include lecture and lab.

VIII. COURSE PRACTICES REQUIRED:

- Read course materials.
- Attend and participate in class lecture and lab.
- Complete required assignments, exercises, quizzes, and exams.

IX. INSTRUCTIONAL MATERIALS:

- Textbook and Lab book: Microsoft Official Curriculum for Windows
- Current Self-Test Software
- Software manuals

X. METHODS OF EVALUATING STUDENT PROGRESS:

Quizzes, examinations, completion of lab assignments, and exercises

XI. OTHER COURSE INFORMATION:

If you have a documented learning, psychological, or physical disability you may be entitled to reasonable academic accommodations or services. To request accommodations or services, contact the ASSIST office in the Learning Center. All students are expected to fulfill essential course requirements. The College will not waive any essential skill or requirement of a course or degree program.