

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                    | 181                  | Advanced Network Security I | 4             | 3              | 2          |
|    | (Formerly CNA/LAN 181) |                      |                             |               |                |            |

II. PREREQUISITE:  
Experience with routers/switches and Windows networking, or consent of instructor, coordinator or program chair

III. COURSE (CATALOG) DESCRIPTION:  
This course focuses on the overall security process with particular emphasis on hands-on skills in security policy design and management, security technologies, products and solutions. Students carry out the installation, programming, and maintenance of routers, switches and firewalls.

IV. LEARNING OBJECTIVES:  
Upon completion of this course, the student will demonstrate competencies in:

- Security policy design and management
- Select and program security hardware, software, and configurations based on organizational requirements to protect a network against vulnerability and threats.
- Demonstrate installation, configuration, and monitoring of networking hardware and software. Cisco Systems hardware will be featured, but not exclusively used, in this course.

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:

1. Overview of Network Security
2. Securing the Perimeter Router
3. ACLs and CABC
4. Router AAA Security
5. Intrusion Detection
6. IP Security
7. VPN

VII. METHODS OF INSTRUCTION:

A combination of lectures, lab, and on-line activities will be used to master the material.

VIII. COURSE PRACTICES REQUIRED:

All lessons and chapter tests must be completed as well as the assigned laboratories. Reading material from supplemental sources as assigned must be read and a structured journal is kept

IX. INSTRUCTIONAL MATERIALS:

Course Technology CCNA books.

X. METHODS OF EVALUATING STUDENT PROGRESS:

All assigned work must be completed and the Cisco on-line examinations must be passed.

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.