

**Common Course Outline**  
**DCOM 217**  
**Cisco I: Network Fundamentals**  
**4 Semester Hours**

**The Community College of Baltimore County**

**Description**

**DCOM 217 – 4 Credits – Cisco I: Network Fundamentals** provides students with classroom and laboratory experiences in current and emerging networking technologies. The class is designed to help students prepare for professional careers in the information and communication technology (ICT) field and the Cisco Certified Network Associate (CCNA) certification exam.

Co-requisite: CINS 120 or consent of the program coordinator

**Overall Course Objectives**

Upon completion of this course the student will be able to:

1. use network protocol models to explain the layers of communications in data networks;
2. design, calculate, and apply subnet masks and addresses;
3. build a simple Ethernet network using routers and switches;
4. employ basic cabling and network designs to connect devices;
5. use Cisco Command Line Interface (CLI) commands to perform basic router and switch configuration and verification; and
6. analyze the operations and feature of the transport and network layer protocols and services.

**Major Topics**

- I. Living in a network-centric world
- II. Communicating over the network
- III. Application Layer functionality and protocols
- IV. Open Systems Interconnection (OSI) reference model layers
- V. Addressing the network: IPv4
- VI. Ethernet
- VII. Planning and cabling networks
- VIII. Configuring and testing the network

## **Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:

Minimum of five laboratory projects  
Minimum of three exams

Writing: The individual faculty member will determine specific writing assignments, such as an Acceptable Usage Policy.

## **Other Course Information**

This course is a program requirement for the Network Technology Security and Cisco degree options, as well as the Network Technology Cisco certificate.

This course is the first course in a four-course sequence.

This course is taught in a computerized environment.

Date Revised: 05/13/09