

**Common Course Outline**  
**DCOM 220**  
**Cisco IV: Connecting Networks**  
**4 Credits**

**Community College of Baltimore County**

**Description**

**DCOM 220 - Cisco IV: Connecting Networks** explores Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. The selection criteria of network devices and WAN technologies to meet network requirements are examined. Students configure and troubleshoot network devices and resolve common issues with data link protocols.

**4 Credits**

**Prerequisites:** DCOM 219 or consent of the program coordinator

**Overall Course Objectives**

Upon completion of this course, students will be able to:

1. discuss different WAN technologies and their benefits;
2. configure and troubleshoot Point to Point (PPP);
3. configure PPP over Ethernet (PPPoE), Generic Routing Encapsulation (GRE), and single-homed external Border Gateway Protocol (eBGP);
4. configure, and troubleshoot extended Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) access control lists (ACLs);
5. explain how to mitigate common local area network (LAN) security attacks;
6. describe Quality of Service (QoS) operation;
7. describe evolving networks including cloud, virtualization, software defined networking (SDN), and the Internet of Things; and
8. troubleshoot end-to-end connectivity in a small to medium-sized business network using a systemic approach.

**Major Topics**

- I. WAN Concepts
- II. Point-to-Point Connections
- III. Branch Connections
- IV. Access Control Lists
- V. Network Security and Monitoring
- VI. Quality of Service
- VII. Network Evolution
- VIII. Network Troubleshooting

### **Course Requirements**

Grading procedures will be determined by the individual faculty member and will include the following:

### **Grading/exams**

- A minimum of five laboratory projects
- A minimum of two exams

Written Assignments: Students are required to use appropriate academic resources.

### **Other Course Information**

This course is a program requirement for the following programs:

Network Technology A.A.S Degree with Cisco Options  
Cyber Security, A.A.S Degree  
Network Technology for Cisco Certificate

This course is the fourth course in a four-course sequence. This course is taught in a computerized environment.

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