Common Course Outline
DCOM 218
Cisco II: Routing and Switching Essentials
4 Credits

Community College of Baltimore County

Description

DCOM 218 - Cisco II: Routing and Switching Essentials explores the architecture, components, and operations of routers and switches in a small network. Students configure a router and a switch for basic functionality. Students troubleshoot routers and switches and resolve common issues with routing in both Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) networks.

4 Credits

Prerequisite: DCOM 217 or consent of the program coordinator

Overall Course Objectives

Upon completion of this course the student will be able to:
1. determine how a router will forward traffic based on the contents of a routing table;
2. explain how switching operates in a small to medium-sized business network;
3. use monitoring tools and network management protocols to troubleshoot data networks;
4. configure monitoring tools available for small to medium-sized business networks;
5. configure initial settings on a network device;
6. configure Ethernet switch ports;
7. implement virtual local area networks (VLANs);
8. implement static routing;
9. implement Dynamic Host Control Protocol (DHCP) on a router;
10. implement network address translation (NAT); and
11. implement access control lists (ACLs) to filter traffic.

Major Topics
I. Routing Concepts
II. Static Routing
III. Dynamic Routing
IV. Switched Networks
V. Switch Configuration
VI. VLANs
VII. Access Control Lists
VIII. DHCP
IX. Network Address Translation for IPv4
X. Device, Discovery, Management, and Maintenance

**Course Requirements**

Grading procedures will be determined by the individual faculty member but at a minimum will include the following:

**Grading/exams**
- A minimum of five laboratory projects
- A minimum of two exams

Written Assignments: Students are required to utilize 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
- Cyber Security Certificate

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

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