Common Course Outline
DCOM 219
Cisco III: Scaling Networks
4 Credits

Community College of Baltimore County

Description

DCOM 219 - Cisco III: Scaling Networks examines the architecture, components, and operations of routers and switches in larger and more complex networks. Students configure and troubleshoot routers and switches and resolve common issues with Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Spanning Tree Protocol (STP), and Cisco virtual LAN Trunk Protocol (VTP) in both Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) networks.

4 Credits

Prerequisite: DCOM 218 or consent of the program coordinator

Overall Course Objectives

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

1. describe the operations and benefits of the Spanning Tree Protocol (STP);
2. explain the operations and benefits of link aggregation and Cisco VLAN Trunk Protocol (VTP);
3. configure and troubleshoot enhanced switching technologies such as VTP, STP, Dynamic Trunk Protocol (DTP), and Rapid Spanning Tree Protocol (RSTP);
4. configure and troubleshoot STP, inter-VLAN routing, EtherChannel, and first hop redundancy protocols (HSRP);
5. configure and troubleshoot basic and advanced operations of routers in a complex routed IPv4 or IPv6 network; and

Major Topics

I. LAN Design
II. Scaling VLANs
III. STP
IV. EtherChannel and HSRP
V. Dynamic Routing
VI. EIGRP
VII. EIGRP Advanced Configurations and Troubleshooting
VIII. Single-Area OSPF
IX. Multi-Area OSPF
X. OSPF Tuning and Troubleshooting

Course Requirements

Grading procedures will be determined by the individual faculty member but 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 third course in a four-course sequence. This course is taught in a computerized environment.

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