

COURSE OUTLINE
CSCO-660
Implementing Secure Converged Wide-Area Networks
3 Semester Hours

HOWARD COMMUNITY COLLEGE

Description

This course introduces how to provide secure enterprise-class network service for teleworkers and branch sites. Students learn how to secure and expand the reach of an enterprise network with focus on VPN configuration and securing network access. Topics include teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EXVPN, strategies to mitigate network attacks, Cisco device hardening and IOS firewall features. This course prepares students to pass one of the CCNP certification, exam number 642-825. Prerequisite: CSCO-272 or CCNA certification. (2 hours lecture and 3 hours lab)

Overall Course Objectives

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

1. Explain Cisco hierarchical network model as it pertains to the WAN.
2. Describe and implement teleworker configuration and access.
3. Implement and verify frame mode MPLS.
4. Describe and configure a site-to-site IPSEC VPN.
5. Describe and configure Cisco EZVPN.
6. Explain the strategies used to mitigate network attacks.
7. Describe and configure Cisco device hardening.
8. Describe and configure IOS firewall and IPS features.

Major Topics

- I. Remote Network Connectivity Requirements
 - A. Hierarchical Network Model
 - B. Remote Connection Requirements in a Converged Network
 - C. Cisco SONA Framework

- II. Teleworker Connectivity
 - A. Remote Connection Topologies and Options for Teleworker
 - B. The Data-over-Cable Service Interface Specifications: DOCSIS
 - C. Deploying ADSL
 - D. PPPoE

- III. IPsec VPNs
 - A. VPN Technologies
 - B. IPsec Components and IPsec VPN Features
 - C. Implementing site-to-site IPsec VPN Operations
 - D. Cisco Easy VPN
 - E. Implementing VPN Client
- IV. Frame Mode MPLS Implementation
- V. Cisco Device Hardening
- VI. Cisco IOS Threat Defense Features

Cisco Networking Academy Curriculum at HCC

When a student takes a Cisco course at HCC, that student usually receives more instruction time than they would receive in other formats. Therefore, while taking Cisco Networking courses at HCC, the student may expect not only instruction from Cisco materials but additional academic and practical exercises and course work to better equip the student not only for the corresponding certification exam but for eventual utilization in their professional endeavors.

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will be calculated on the basis of tests, lab reports, quizzes and final exam. This course includes a comprehensive final exam and lab practical.

Other Course Information

This course is a course in the Computer Support Technology program and Telecommunications Technology program.

This course is also intended for students who wish to become a Cisco Certified Network Professional (CCNP).