

JOLIET JUNIOR COLLEGE
DEPARTMENT OF COMPUTER INFORMATION
AND OFFICE SYSTEMS

COURSE SYLLABUS

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|---------------------------------|--|
| Course Prefix and Number | CNT 206 |
| Course Title | Implementing Secure Converged Wide-Area Networks |
| Curriculum | Computer Information Systems |
| Semester Hours | 4 |
| Lecture | 4 |
| Lab | 0 |
| Prerequisites | CNT 104 or CCNA Certification |

Catalog Description

Students are introduced to secure enterprise-class network services for teleworkers and branch sites. Students will learn how to secure and expand the reach of an enterprise network with a focus on VPN configuration and securing network access. Topics include teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening, and IOS firewall features. The class is designed to prepare students to pursue the Cisco CCNP examination.

Course Objectives: See attached

Prepared by:

Reviewed by:

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5/03

Revised 12/08
Revised 8/05

Ram Raghuraman
Department Chairperson

Date

STUDENT MATERIALS

A. Textbook:

NONE

B. Other Required Materials

Student Evaluation (Type of Grading)

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FORM C, Part II: TOPICAL OUTLINE

Course Prefix and Number: CNT 206 Title: Implementing Secure Converged Wide-Area Networks

| Week | Unit, Topic, Class Activity (Indicate approximate time allotment for each topic/unit) | Comments |
|-------|--|----------|
| 1 | Remote Network Connectivity Requirements Enterprise Networking | |
| 2-4 | Teleworker Connectivity Describing Remote Connection Topologies for Teleworkers, Describing Cable Technology, Deploying Cable System Technology, Describing DSL Technology, Deploying ADSL, Configuring the CPE as the PPPoE or PPPoA Client, Troubleshooting Broadband ADSL Configurations | |
| 5-7 | IPsec VPNs Introducing VPN Technology, Understanding IPsec Components and IPsec VPN Features, Implementing Site-to-Site IPsec VPN Operations, Configuring IPsec Site-to-Site VPN Using SDM, Configuring GRE Tunnels over IPsec, Configuring High-Availability VPNs, Introducing Cisco Easy VPN, Configuring Easy VPN Server using Cisco SDM, Implementing the Cisco VPN Client | |
| 8-10 | Frame Mode MPLS Implementation Introducing MPLS Networks, Assigning MPLS Labels to Packets, Implementing Frame Mode MPLS, Describing MPLS VPN Technology | |
| 11-13 | Cisco Device Hardening Thinking Like a Hacker, Mitigating Network Attacks, Network Attacks Using Intelligence, Disabling Unused Cisco Router Network Services and Interfaces, Securing Cisco Router Administrative Access, Configuring Role-Based CLI, Mitigating Threats and Attacks with Access Lists, Securing Management and Reporting Features, Configuring SNMP, Configuring the NTP Client, Configuring AAA on Cisco Routers | |
| 14-15 | Cisco IOS Threat Defense Features Introducing the Cisco IOS Firewall, Configuring Cisco IOS Firewall from the CLI, Basic and Advanced Firewall Wizards, Introducing Cisco IOS IPS, Configuring Cisco IOS IPS | |

OBJECTIVES

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

- Implement secure broadband connections for teleworkers
- Describe Cisco network architecture alignment with connectivity requirements
- Describe MPLS conceptual data and control planes
- Describe and configure a site-to-site IPsec VPN
- Describe and configure Cisco device hardening strategies to mitigate network attacks
- Certification Exam: ISCW v1.0 and 642-825