



BROWARD COMMUNITY COLLEGE COURSE OUTLINE

LAST REVIEW: 2008-2009

(i.e. 2003-2004)

NEXT REVIEW: 2013-2014

(i.e. 2008-2009)

STATUS: A

(A, I, D)

COURSE TITLE: Cisco Network VI

COMMON COURSE NUMBER: CET2626C

CREDIT HOURS: 4

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS: 4

(Voc. Course ONLY)

Lecture: **48**

Lab: **16**

Clinic: **0**

Other: **0**

PREREQUISITE(S): CET1620C (with a grade of 'C' or higher)

COREQUISITE(S):

PRE/COREQUISITE(S):

COURSE DESCRIPTION *(750 characters, maximum):*

CCNP: Implementing Secure Converged Wide-area Networks is one of four courses leading to the Cisco Certified Network Professional (CCNP) designation. CCNP: Implementing Secure Converged Wide-area Networks introduces Cisco Networking Academy Program students to providing secure enterprise-class network service for teleworkers and branch sites. Students will 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 EZVPN, strategies used to mitigate network attacks, Cisco device hardening and IOS firewall features.

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area

General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area

General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

UNIT TITLES

- 1. Remote Network Connectivity Requirements**
- 2. Teleworker Connectivity**
- 3. IPsec VPNs**
- 4. Frame Mode MPLS Implementation**
- 5. Cisco Device Hardening**
- 6. Cisco IOS Threat Defense Features**



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EVALUATION:

Please provide a brief description (250 characters maximum) that details how students will be assessed on the course outcomes.

Evaluation instruments will include written and/or skills-based examinations and individual in-class and/or take-home assignments. Evaluation methods may also include group in-class and/or take-home assignments.

**** Complete the following only if course is seeking general education status ****

GENERAL EDUCATION Competencies and Skills*:

Please highlight in green font all Competencies/Skills from the list below that apply to this course. In the box to the right of the Competency/Skill, enter all specific learning outcome numbers (i.e. 1.1, 2.7, 5.12) that apply.

1. Read with critical comprehension	
2. Speak and listen effectively	
3. Write clearly and coherently	
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	
5. Demonstrate and apply literacy in its various forms: (highlight in green ALL that apply) (1. technological, 2. informational, 3. mathematical, 4. scientific, 5. cultural, 6. historical, 7. aesthetic and/or 8. environmental)	
6. Apply problem solving techniques to real-world experiences	
7. Apply methods of scientific inquiry	
8. Demonstrate an understanding of the physical and biological environment and how it is impacted by human beings	
9. Demonstrate an understanding of and appreciation for human diversities and commonalities	
10. Collaborate with others to achieve common goals.	
11. Research, synthesize and produce original work	
12. Practice ethical behavior	
13. Demonstrate self-direction and self motivation	
14. Assume responsibility for and understand the impact of personal behaviors on self and society	
15. Contribute to the welfare of the community	

** General Education Competencies and Skills endorsed by '05-'06 General Education Task Force*



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Common Course Number: CET2625C

UNITS

Unit 1

General Outcome:

1.0 The student shall: be introduced to enterprise networking

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

1.1 Enterprise Networking



Common Course Number: CET2625C

Unit 2

General Outcome:

2.0 The student shall: be introduced to different remote connection technology

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Describing Remote Connection Topologies for Teleworkers
- 2.2 Describing Cable Technology
- 2.3 Deploying Cable System Technology
- 2.4 Describing DSL Technology
- 2.5 Deploying ADSL
- 2.6 Configuring the CPE as the PPPoE or PPPoA Client
- 2.7 Troubleshooting Broadband ADSL Configurations
- 2.8 PPPoE Simulation Practice



Common Course Number: CET2625C

Unit 3

General Outcome:

3.0 The student shall: configure VPN connections

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1** Introducing VPN Technology 3.1.1 What Is Needed to Build a VPN?
- 3.2** Understanding IPsec Components and IPsec VPN Features
- 3.3** Implementing Site-to-Site IPsec VPN Operations
- 3.4** Configuring IPsec Site-to-Site VPN Using SDM
- 3.5** Configuring GRE Tunnels over IPsec
- 3.6** Configuring High-Availability VPNs
- 3.7** Introducing Cisco Easy VPN 3.7.1 Introducing Cisco Easy VPN
- 3.8** Configuring Easy VPN Server using Cisco SDM
- 3.9** Implementing the Cisco VPN Client
- 3.10** IPsec VPN Lab Exercises



Common Course Number: CET2625C

Unit 4

General Outcome:

4.0 The student shall: implement MPLS networks

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

4.1 Introducing MPLS Networks 4.1.1 The MPLS Conceptual Model

4.2 Assigning MPLS Labels to Packets

4.3 Implementing Frame Mode MPLS

4.4 Describing MPLS VPN Technology

4.5 MPLS Lab Exercises



Common Course Number: CET2625C

Unit 5

General Outcome:

5.0 The student shall: learn basic security monitoring techniques

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Thinking Like a Hacker
- 5.2 Mitigating Network Attacks
- 5.3 Network Attacks Using Intelligence
- 5.4 Disabling Unused Cisco Router Network Services and Interfaces
- 5.5 Securing Cisco Router Administrative Access
- 5.6 Configuring Role-Based CLI
- 5.7 Mitigating Threats and Attacks with Access Lists
- 5.8 Securing Management and Reporting Features
- 5.9 Configuring SNMP
- 5.10 Configuring the NTP Client
- 5.11 Configuring AAA on Cisco Routers
- 5.12 Cisco Device Hardening Lab Exercises



Common Course Number: CET2625C

Unit 6

General Outcome:

6.0 The student shall: configure basic firewalls

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1** Introducing the Cisco IOS Firewall
- 6.2** Configuring Cisco IOS Firewall from the CLI
- 6.3** Basic and Advanced Firewall Wizards
- 6.4** Introducing Cisco IOS IPS
- 6.5** Configuring Cisco IOS IPS
- 6.6** Threat Defense Lab Exercises