

LAST REVIEW:

(i.e. 2003-2004)

NEXT REVIEW: 2014-2015

(i.e. 2008-2009)

STATUS: A

(A, I, D)

COURSE TITLE: Cisco CCNP I - Routing

COMMON COURSE NUMBER: CET2625C

CREDIT HOURS: 4

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:

(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):*

This course provides students with the knowledge and skills necessary to use advanced IP addressing and routing in implementing scalable and secure Cisco ISR routers connected to LANs and WANs. The skills developed by students completing this course will help prepare them for the Cisco Route Exam.

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. Implement an EIGRP based solution, given a network design and a set of requirements
2. Implement a multi-area OSPF Network, given a network design and a set of requirements
3. Implement an eBGP based solution, given a network design and a set of requirements
4. Implement an IPv6 based solution, given a network design and a set of requirements
5. Implement an IPv4 or IPv6 based redistribution solution, given a network design and a set of requirements
6. Implement Layer 3 Path Control Solution

EVALUATION:

Please provide a brief description (250 characters maximum) that details how students will be evaluated 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.

Common Course Number: CET2625C

UNITS

Unit 1

General Outcome:

1.0 The student shall: be able to implement an EIGRP based solution.

Specific Measurable Learning Outcomes:

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

- 1.1 Determine network resources needed for implementing EIGRP on a network
- 1.2 Create an EIGRP implementation plan
- 1.3 Create an EIGRP verification plan
- 1.4 Configure EIGRP routing
- 1.5 Verify EIGRP solution was implemented properly using show and debug commands
- 1.6 Document results of EIGRP implementation and verification

Common Course Number: CET2625C

Unit 2

General Outcome:

2.0 The student shall: be able to implement a multi-area OSPF network.

Specific Measurable Learning Outcomes:

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

- 2.1 Determine network resources needed for implementing OSPF on a network
- 2.2 Create an OSPF implementation plan
- 2.3 Create an OSPF verification plan
- 2.4 Configure OSPF routing
- 2.5 Verify OSPF solution was implemented properly using show and debug commands
- 2.6 Document results of OSPF implementation and verification plan

Common Course Number: CET2625C

Unit 3

General Outcome:

3.0 The student shall: be able to implement an eBGP based solution.

Specific Measurable Learning Outcomes:

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

- 3.1 Determine network resources needed for implementing eBGP on a network
- 3.2 Create an eBGP implementation plan
- 3.3 Create an eBGP verification plan
- 3.4 Configure eBGP routing
- 3.5 Verify eBGP solution was implemented properly using show and debug commands
- 3.6 Document results of eBGP implementation and verification plan

Common Course Number: CET2625C

Unit 4

General Outcome:

4.0 The student shall: be able to implement an IPv6 based solution.

Specific Measurable Learning Outcomes:

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

- 4.1 Determine network resources needed for implementing IPv6 on a network
- 4.2 Create an IPv6 implementation plan
- 4.3 Create an IPv6 verification plan
- 4.4 Configure IPv6 routing
- 4.5 Configure IPv6 interoperability with IPv4
- 4.6 Verify IPv6 solution was implemented properly using show and debug commands
- 4.7 Document results of IPv6 implementation and verification plan

Common Course Number: CET2625C

Unit 5

General Outcome:

- 5.0 The student shall: be able to implement an IPv4 or IPv6 based redistribution solution.

Specific Measurable Learning Outcomes:

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

- 5.1 Create a redistribution implementation plan based upon the results of the redistribution analysis
- 5.2 Create a redistribution verification plan
- 5.3 Configure a redistribution solution
- 5.4 Verify that redistribution was implemented
- 5.5 Document results of a redistribution implementation and verification plan
- 5.6 Identify the differences between implementing an IPv4 and IPv6 redistribution solution

Common Course Number: CET2625C

Unit 6

General Outcome:

6.0 The student shall: be able to implement layer 3 path control solution.

Specific Measurable Learning Outcomes:

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

- 6.1 Create a Layer 3 path control implementation plan based upon the results of the redistribution analysis
- 6.2 Create a Layer 3 path control verification plan
- 6.3 Configure Layer 3 path control
- 6.4 Verify that a Layer 3 path control was implemented
- 6.5 Document results of a Layer 3 path control implementation and verification plan
- 6.6 Implement basic teleworker and branch services
- 6.7 Describe broadband technologies
- 6.8 Configure basic broadband connections
- 6.9 Describe basic VPN technologies
- 6.10 Configure GRE
- 6.11 Describe branch access technologies