Las Positas College
3000 Campus Hill Drive
Livermore, CA 94551-7650
(925) 424-1000
(925) 443-0742 (Fax)

Course Outline for CNT 63

CISCO CCNP SEMESTER 5 ADVANCED ROUTING

Effective: Fall 2014

I. CATALOG DESCRIPTION:
CNT 63 — CISCO CCNP SEMESTER 5 ADVANCED ROUTING — 4.00 units

This course is the first course in the Cisco Certified Network Professional (CCNP) curriculum. This course will cover the configuration of Cisco routers for operation in large or growing multiprotocol internetworks. This course includes lectures and laboratory exercises that focus primarily on scalable technologies and the Cisco IOS software features that are most useful in building large or growing internetworks. These features include scalable routing protocols, such as OSPF. EIGRP, and BGP, queuing, VLSM, route redistribution, route summarization, and NAT. Recommend students take classes in order and only one CCNP course at a time.

3.00 Units Lecture 1.00 Units Lab

Prerequisite
CNT 62A - Cisco Networking Academy CCNA I
with a minimum grade of C

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	54.00
Lab Hours:	54.00
Total Hours:	108.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:
Before entering the course a student should be able to:

A. CNT62A

IV. MEASURABLE OBJECTIVES:
Upon completion of this course, the student should be able to:

A. configure router access lists;
B. implement advanced routing protocols;
C. implement routing solutions in a laboratory environment.

V. CONTENT:
A. Hierarchical Network Design Model
   1. Three-layer hierarchical internet
   2. Router functionality at each layer
   3. Examples of Cisco routers at each layer
B. Classfull Addressing
   1. Internet’s address architecture
   2. Advertising network addresses
   3. IP v4 address formats
C. Routing
   1. Types of routing
   2. Static routing
   3. Distance vector routing
   4. Link state routing
   5. Hybridized routing
D. OSPF Overview
   1. Issues Addressed by OSPF
   2. OSPF Terminology
   3. OSPF Packet Formats
E. EIGRP Concepts

1. Backward compatibility with IGRP
2. EIGRP design
3. EIGRP support for Novell IPX RIP and SAP
4. EIGRP terminology

F. Controlling routing Update Traffic
1. How to prevent routing update exchange and propagation
2. Using and configuring the passive-interface command
3. Using and configuring route filters
4. IP route filtering configuration example

G. The Routing Process
1. Route exchange
2. Routes received from peers
3. A routing environment example

H. Traffic Management Techniques
1. Managing IP traffic
2. IP access lists

VI. METHODS OF INSTRUCTION:
A. **Lecture** -
B. **Lab** -
C. **Discussion** -
D. **Demonstration** -

VII. TYPICAL ASSIGNMENTS:

A. Reading: 1. Read on-line curriculum chapter 4. Discuss the use of router access lists. B. Demonstration: 2. Demonstrate the use of EIGRP routing protocol.

VIII. EVALUATION:
A. **Methods**

1. Exams/Tests

B. **Frequency**

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IX. TYPICAL TEXTS:
1. - *B. CCNP Cisco Networking Academy Program: Semester Five Companion Guide.*, Cisco Press, 2000.
2. Cisco Academy on-line curriculum.

X. OTHER MATERIALS REQUIRED OF STUDENTS: