MASTER COURSE OUTLINE

Prepared By: Mary Shannon   Date: April 2014

COURSE TITLE

Cisco Networking: Scaling Networks

GENERAL COURSE INFORMATION

Dept.: CS	Course Num: 158	(Formerly:)
CIP Code: 11.0901	Intent Code: 21	Program Code: 527
Credits: 5		
Total Contact Hrs Per Qtr.: 77		
Lecture Hrs: 33	Lab Hrs: 44	Other Hrs:

Distribution Designation: General Elective (GE)

COURSE DESCRIPTION (as it will appear in the catalog)

Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network.

PREREQUISITES

CS 157

TEXTBOOK GUIDELINES

Textbook and materials to be determined by CS Faculty (Example: *Cisco Packet Tracer current version*)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Configure and troubleshoot DHCP and DNS operations for IPv4 and IPv6
2. Describe the operations and benefits of the Spanning Tree Protocol (STP)
3. Configure and troubleshoot STP operations
4. Describe the operations and benefits of link aggregation and Cisco VLAN Trunk Protocol (VTP)
5. Configure and troubleshoot basic operations of routers in a complex routed network for IPv4 and IPv6
6. Configure and troubleshoot advanced operations of routers and implement RIP, OSPF, and EIGRP routing protocols for IPv4 and IPv6
7. Manage Cisco IOS® Software licensing and configuration files

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

1. Building a Small to Medium-Sized Network
2. DHCP
3. The Spanning Tree Protocol
4. Link Aggregation

5. Troubleshooting Layer 2 Issues
6. Implementing EIGRP
7. Implementing Multi-Area OSPF
8. IOS File Management

DEPARTMENTAL GUIDELINES *(optional)*
This is the third course in the newly revised Cisco Networking Academy CCNA Routing and Switching curriculum. Students will be prepared to take the Cisco CCENT® certification exam after completing CS 156 and CS 157 and the CCNA® Routing and Switching certification exam after completing CS 158 and CS 159.

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DIVISION CHAIR APPROVAL   **DATE**