



COURSE OUTLINE

Section 1:

Course Title: Cisco CCNA III: Scaling Networks

Course Code: CNET-2001

Course Description: Exploration into the architecture, components, and operation of routers and switches in large complex networks. Students configure routers and switches for advanced enterprise-level functionality. The learning outcomes of this course map to components of the Cisco Certified Network Associate (CCNA) certification.

Grade Scheme: ☐ Pass/Fail ☒ Percentage Minimum Pass Mark: 60%

Course Value:	Outcome hours	OR	3 Credit(s)	60 (15 class + 45 lab) Hours
----------------------	---------------	----	-------------	---------------------------------

Pre-requisites: CNET-1021 Cisco CCNA II: Routing and Switching Essentials

Co-requisites: NONE

Section 2:

Learning Outcomes and Competencies

1. Manage Spanning Tree Protocol (STP) on switches to maximize network availability.

- 1.1 Explain the importance of redundancy in network design.
- 1.2 Explain STP terminology.
- 1.3 Configure STP and RSTP on Cisco switches.
- 1.4 Troubleshoot STP problems.

2. Maximize network performance with link aggregation.

- 2.1 Explain the concept of link aggregation in a high performance network
- 2.2 Configure and troubleshoot EtherChannel on Cisco switches.

3. Implement a wireless network to meet business requirements.

- 3.1 Describe the components of wireless LANs (WLANs).
- 3.2 Compare and contrast WLAN standards.

- 3.3 Configure and verify WLAN operation.
- 3.4 Describe security threats to WLANs.
- 3.5 Identify enterprise level security protocols.
- 3.6 Secure WLANs against common security attacks.
- 3.7 Troubleshoot WLAN problems.

4. Implement advanced distance vector and link state routing protocols

- 4.1 Configure and troubleshoot single area and multi area OSPF (Open Shortest Path First) protocols.
- 4.2 Configure and troubleshoot EIGRP (Enhanced Interior Gateway) protocol.

5. Manage the Cisco Internetworking Operating System (IOS) file system.

- 5.1 Configure a router to load the IOS software from flash memory, a TFTP server, or ROM.
- 5.2 Create a backup of the configuration file on: a TFTP sever and an external drive.
- 5.3 Manage and install and verify IOS software licenses.

Section 3:

Assessment Categories:	Theory Tests and Exams	30%
	Practical Tests and Exams	25%
	Labs and Assignments	35%
	Professionalism	10%

Research Component? ☐ Yes ☒ No

Section 4:

(For administrative use only)

Is this course new? ☐ Yes ☒ No

Is this course replacing an existing course(s)? ☐ Yes ☒ No

If this course is replacing another, please record the name and code of the old course:

Course equivalents: CNET-1031 Cisco CCNA III: Scaling Networks

Note: See Quality Procedure [A01](#) for more details.

Catalog Year of Original Course Implementation: 2014

Catalog Year of Current Version Implementation: 2015

Revision level: 2 Version: 2 Date: June/2016 Authorized by: MLGJ

Accreditation and or Supporting Documents: National Technology Benchmarks: Canadian Council of Technicians & Technologists; Discipline: Information Technology; Level: Technologist

Additional Information: Additional tutorial hours may be scheduled.

Subject matter expert(s): Rob Blanchard

Approved by: (Program Manager)

Paul Murnaghan

Date Approved: **2016-06-30**

Approved by: (Curriculum Consultant)

Mary Lou Griffin-Jenkins

Date Approved: **2016-06-30**