

**JOLIET JUNIOR COLLEGE
DEPARTMENT OF COMPUTER INFORMATION
AND OFFICE SYSTEMS**

COURSE SYLLABUS

Course Prefix and Number	CNT 207
Course Title	Building Multilayer Switched Networks
Curriculum	Computer Information Systems
Semester Hours	4
Lecture	4
Lab	0
Prerequisites	CNT 104 or CCNA Certification

Catalog Description

This course covers the deployment of state-of-the-art campus LANs. The primary focus is on the selection and implementation of the appropriate Cisco IOS services to build reliable, scalable, multilayer-switched LANs. Focus areas of the course include VLANs, Spanning Tree Protocol, wireless client access, minimizing service loss, and minimizing data theft in a campus network. This hands-on, lab-oriented course stresses the design, implementation, operation, and troubleshooting of multilayer switched networks. The class is designed to prepare students to pursue the Cisco CCNP examination.

Course Objectives: See attached

Prepared by:

Reviewed by:

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6/03

Revised 12/08
Revised 8/05

Ram Raghuraman
Department Chairperson

Date

STUDENT MATERIALS

A. Textbook:

-NONE-

B. Other Required Materials

Student Evaluation (Type of Grading)

JOLIET JUNIOR COLLEGE COURSE SYLLABUS

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FORM C, Part II: TOPICAL OUTLINE

Course Prefix and Number: CNT 207 Title: Building Multilayer Switched Networks

Week	Unit, Topic, Class Activity (Indicate approximate time allotment for each topic/unit)	Comments
1	Network Requirements Introducing Campus Networks	
2-3	Defining VLANs Implementing Best Practices for VLAN Topologies, Implementing VLANs, Implementing Trunks, Propagating VLAN Configurations with VLAN Trunking, Correcting Common VLAN Configuration Errors	
4-5	Implementing Spanning Tree Describing STP, Implementing RSTP, Implementing MSTP, Configuring Link Aggregation with EtherChannel	
6-7	Implementing Inter-VLAN Routing Describing Routing Between VLANs, Enabling Routing Between VLANs, Deploying CEF-Based Multilayer Switching	
8-9	Implementing High Availability in a Campus Environment Configuring Layer 3 Redundancy with HSRP, Optimizing HSRP, Configuring Layer 3 Redundancy with VRRP and GLBP	
10-11	Wireless LANs Introducing Wireless LANs, Describing Wireless LAN Topologies, Explaining Wireless LAN Technology Standards, Configuring Cisco WLAN Clients, Implementing Wireless LANs, Configuring Wireless WLANs	
12-13	Configuring Campus Switches to Support Voice Planning for Implementation of Voice in a Campus, Accommodating Voice Traffic on Campus Switches	
14-15	Minimizing Service Loss and Data Theft in a Campus Network Understanding Switch Security Issues, Protecting Against VLAN Attacks, Protecting Against Spoof Attacks, STP Security Mechanisms, Preventing STP Forwarding Loops, Securing Network Switches	

OBJECTIVES

Upon completion of the course, the student will be able to:

- Define VLANs to segment network traffic
- Explain Cisco hierarchy network model for campus networks
- Implement Spanning Tree Protocol and implement and verify InterVLAN routing
- Design and implement security features
- Implement high-availability technologies and techniques
- Describe and configure wireless LAN access and switch to support voice
- Certification Exam: BCMSN v3.0 exam and 642-812