SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
CYB 247S SWITCHING AND ROUTING
3 CREDIT HOURS

COURSE DESCRIPTION
Continuation of configuring networks from a routing and switching perspective. Focuses on routing and switching concepts, VLANs, the spanning tree protocol (STP), EtherChannel, dynamic host control protocols for IPv4 and IPv6, security best practices, wireless local area networks (WLANs), and static and default route configurations. Prepares students for the Cisco Certified Network Associate (CCNA) certification exam. Prerequisite: CYB 246S with a grade of "C" or better. Lab fee.

COURSE GOALS
The student will:

Bloom's Level		Program Outcomes
3	1. Configure devices by using security best practices.	3, 6, 7, 8
2	2. Explain the operation of switches, STP, dynamic address allocation, FHRPs, WLANs, and routers.	5, 6, 8
3	3. Implement DHCPv4, VLANs, trunking, and WLANs.	6, 8
4	4. Analyze and troubleshoot inter-VLAN routing, EtherChannel, and static and default route configurations.	6, 7, 8
2	5. Explain how vulnerabilities compromise LAN security.	3, 6, 8

CORE VALUES
The Core Values are a set of principles that guide in creating educational programs and environments at Edison State. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

TOPIC OUTLINE
1. Basic Device Configuration
2. Switching Concepts
3. VLANs and Inter-VLAN Routing
4. STP
5. EtherChannel
6. DHCPv4
7. SLAAC and DHCPv6 Concepts
8. FHRP Concepts
9. LAN Security Concepts
10. Switch Security Configuration
11. WLAN Concepts and Configuration
12. Routing Concepts
13. IP Static Routing
14. Static and Default Route Troubleshooting