SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
CYB 249S   CCNA 4
3 CREDIT HOURS

COURSE DESCRIPTION
Study of wide area networks (WANs) including advanced IP addressing techniques, network address translation (NAT), port address translation (PAT), dynamic host configuration protocol (DHCP), WAN technology and terminology, frame relay, and network management. Prepares students for the Cisco Certified Network Associate (CCNA) certification exam. Prerequisite: grade of "C" or better in CYB 248S. Lab fee.

COURSE GOALS
 The student will:

Bloom's Level		Program Outcomes
2	1. Describe the impact of Voice Over IP and Video Over IP applications on a network.	5
2	2. Describe the components required for network and Internet communications.	4
3	3. Demonstrate basic switch security measures such as port security, trunk access, and management Virtualized LANs (VLANs).	8
5	4. Verify and troubleshoot, DHCP and Domain Name Server (DNS) operations on a router.	8
2	5. Describe current network security threats and explain how to implement a comprehensive security policy to mitigate common threats to network devices, hosts, and applications.	6
2	6. Describe the functions of common security appliances and applications.	6
2	7. Describe recommended security practices to secure network devices.	6
3	8. Demonstrate and apply Access Control Lists (ACL) based on network filtering requirements.	8
5	9. Design and apply an ACL to limit Telnet and Secure Shell (SSH) access to the router using the Security Device Manager command-line interfaces.	7
3	10. Prepare, monitor, and troubleshoot ACLs in a network environment.	7
2	11. Explain the basic operation of Network Address Translation (NAT).	6
4	12. Analyze and troubleshoot NAT for given network requirements.	8
4	13. Analyze, configure, verify, and troubleshoot a Point-to-Point Protocol (PPP) connection between Cisco routers.	8
3	14. Demonstrate, configure, verify, and troubleshoot Frame Relay on Cisco routers.	4
2	15. Describe the importance, benefits, role, impact, and components of Virtual Private Network (VPN) technology.	5

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. WAN concepts
2. Point to point connections
3. Branch connections
4. Network security and monitoring
5. Access control lists
6. Teleworker services QOS
7. Network evolution
8. Network troubleshooting