SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
CSC 211S CCNA 2
3 CREDIT HOURS

COURSE DESCRIPTION
Introduces initial router configuration, router software management, routing protocol configuration, internet addressing, and access control lists (ACLs). Prepares students for the Cisco Certified Network Associate (CCNA) certification exam. Prerequisite: grade of "C" or better in CSC 210S. Lab fee.

COURSE GOALS
The student will:

Bloom's Level		Program Outcomes
2	1. Describe the purpose, nature, and operations of a router.	3
2	2. Explain the critical role routers play in enabling communications across multiple networks.	8
2	3. Describe the purpose and nature of routing tables.	6
2	4. Describe how a router determines a path and switches packets.	6
3	5. Explain the route lookup process and determine the path packets will take in a network.	7
3	6. Establish and verify basic operations for a newly-installed router.	7
2	7. Describe the purpose of static routes and the procedure for configuring them.	4
5	8. Create and verify static and default routing.	8
2	9. Describe the role of dynamic routing protocols and place these protocols in the context of modern network design.	7
2	10. Describe how metrics are used by routing protocols and identify the metric types used by dynamic routing protocols.	6
4	11. Analyze the characteristics of distance vector routing protocols using Routing Information Protocol (RIP).	8
2	12. Describe the functions, characteristics, and operations of the RIP protocol.	5
4	13. Compare and contrast classful and classless IP addressing, both IPv4 and IPv6.	5
2	14. Describe classful and classless routing behaviors in routed networks.	6
5	15. Design and implement a classless IP addressing scheme for a given network IPv4 and IPv6.	6
2	16. Describe the main features and operation of the Enhanced Interior Gateway Routing Protocol (EIGRP).	5
3	17. Prepare advanced configuration commands with routers implementing EIGRP and Open Shortest Path First (OSPF).	8
2	18. Describe the basic features and concepts of link-state routing protocols.	7
2	19. Describe the purpose, nature, and operations of the OSPF Protocol.	6

SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
CSC 211S CCNA 2
3 CREDIT HOURS

Bloom's Level		Program Outcomes
5	20. Create and verify basic RIP, single area OSPF, and EIGRP operations in a small routed network.	8
4	21. Separate router show and debug commands to troubleshoot common errors that occur in small routed networks.	8

CORE VALUES
The Core Values are a set of principles that guide in creating educational programs and environments at Edison. 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. Routing and packet forwarding
2. Static routing
3. Dynamic routing protocols
4. Distance vector routing protocols
5. RIP
6. VLSM and CIDR IPv4 and IPv6
7. Routing Tables
8. EIGRP
9. Link-State routing protocols
10. OSPF