

SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
CYB 246S INTRODUCTION TO NETWORKS
3 CREDIT HOURS

COURSE DESCRIPTION

Introduction to the data networking field. Focuses on network terminology and protocols, local-area networks (LANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, basic router configuration, Ethernet, Internet Protocol (IP) addressing, and networking standards. Prepares students for the Cisco Certified Network Associate (CCNA) certification exam. Recommended preparation: CIS 211S. Lab fee.

COURSE GOALS

The student will:

Bloom's Level		Program Outcomes
3	1. Establish initial settings on network switches, routers, and end devices.	3, 5, 6
2	2. Explain how network protocols enable devices to access local and remote network resources.	3, 6
2	3. Explain and distinguish between the different functions of each layer in the TCP/IP and OSI network models.	3, 6
3	4. Calculate numbers between decimal and binary systems.	3, 6, 8
2	5. Explain how Ethernet and address resolution enable communication on a local area network.	3, 6
3	6. Establish IP subnetting schemes using IPv4 and IPv6.	3, 6, 8
3	7. Use various tools to test network connectivity.	3, 6, 8
3	8. Establish a network design for a small network to include a router, a switch, and end devices.	3, 6, 7, 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. Networking Today
2. Basic Switch and Device Configuration
3. Protocols and Models
4. Network Layers
5. Number Systems
6. Ethernet Switching
7. Address Resolution
8. Basic Router Configuration
9. IP Addressing
10. Network Connectivity Testing
11. Network Security Fundamentals
12. Small Networks