



BAKER COLLEGE
STUDENT LEARNING OUTCOMES

NET 2210 Routers and Routing
3 Semester Hours

Student Learning Outcomes & Enabling Objectives

1. Describe the functions of each layer of the OSI Model.
 - a. Discuss several reasons why the industry uses a layered model.
 - b. List the key internetworking functions for the OSI Network Layer.
 - c. Discuss the function of the MAC address and MAC sub layer of the Data Link Layer.
 - d. Explain data encapsulation.

2. Examine the function and use of network protocols.
 - a. Contrast TCP/IP, ICMP, and UDP protocols
 - b. Discuss the different classes of IP address.
 - c. Discuss the benefits of subnetting.
 - d. Discuss Variable Length Subnet Masks (VLSM).
 - e. Design an IP scheme for a network.

3. Identify the use and function of network devices.
 - a. Describe the benefits of Local Area Network (LAN) segmentation.
 - b. Explain the difference between collision and broadcast domains.
 - c. Discuss the advantages of using switches over hubs.
 - d. Discuss the differences between Layer 2 and Layer 3 switches.
 - e. Distinguish between the three LAN switching methods.
 - f. Describe the methods used to connect routers, switches, and hubs within a network.

4. Connect and configure various Cisco devices.
 - a. Login to a router in both user and privilege modes.
 - b. Configure IP address, subnet masks, and gateway addresses on routers and hosts.
 - c. Use the common Cisco IOS configuration commands.
 - d. Control router passwords, hostnames, and banners.
 - e. Configure static and default routing.
 - f. Contrast dynamic routing protocols (RIP, IGRP, EIGRP, OSPF).

5. Troubleshoot issues with interconnecting devices.
 - a. Troubleshoot IP related issues using tools such as ping and traceroute.
 - b. Use command history to identify possible configuration issues.
 - c. Verify correct methods of connecting devices to one another.

6. Use security settings to ensure the integrity of management control and data traffic.
 - a. Identify the components of an ACL (Access Control List).
 - b. Configure access lists to manage and filter network traffic.
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Big Ideas and Essential Questions

Big Ideas

- Design, install, and troubleshoot a basic networks.

Essential Questions

1. How is a basic network designed and implemented?
 2. How can connectivity issues be resolved?
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These SLOs are approved for experiential credit.

Effective: Fall 2017