

COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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A. Identification:

1. Subject Area: Computer Information Systems (CIS)
2. Course Number: 150
3. Course Title: Cisco Networking Academy Semester 2
4. Credit Hours: 4
5. Course Description: This is the second of a four semester curriculum series designed to provide students with classroom discussions, hands-on experience and virtual network simulations in current and emerging networking technologies to enter employment and/or further education in the networking field. Students learn how to configure a router and a switch for day-to-day basic functionality in small to medium size businesses. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with virtual LANs, DHCP, ACLs, NAT and interVLAN routing in both IPv4 and IPv6 networks. Prior networking knowledge strongly recommended. Prerequisite: CIS 140 or Consent of Instructor. Four lecture.

B. Course Goals: Provide students with the knowledge and hands-on skills to design, build and monitor a small to medium size network with common network services and features such as: network security, VLANs, InterVLAN routing, Access Control Lists and Network Address Translation.

C. Course Outcomes:

Upon successful completion of this course, students will:

1. configure initial settings on a network device (Switch and Router);
2. implement DHCP on a router;
3. implement network address translation (NAT);
4. implement access control lists (ACLs) to filter traffic;
5. determine how a router will forward traffic based on the contents of a routing table;
6. implement static routing;
7. explain how switching operates in a small to medium-sized business network;
8. configure Ethernet switch ports;
9. implement VLANs;
10. use monitoring tools and network management protocols to troubleshoot data networks;
11. and configure monitoring tools available for small to medium-sized business networks.

D. Course Outcomes Assessment will include:

1. self-assessment chapter quizzes;
2. web based chapter exams;
3. hands-on lab assessment for each applicable chapter;
4. web final exam covering material from the entire semester;
5. and final practical exam (using routers and switches).

E. Course Content will include:

1. routing protocols;

2. static routing;
3. dynamic routing;
4. switched networks;
5. switch configuration;
6. VLANs;
7. Access Control Lists;
8. DHCP;
9. NAT for IPv4;
10. And device discovery, management, and maintenance.