

COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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October, 03, 2001
Fall 2009
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A. Identification:

1. Subject Area: Computer Information Systems (CIS)
2. Course Number: 170
3. Course Title: Cisco Networking Academy Semester 4
4. Credit Hours: 4
5. Course Description: This is the final course in 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. This course discusses Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn advanced network device configuration, troubleshoot network devices and resolve common issues with WAN protocols. Students will also develop the knowledge and skills needed to implement virtual private network (VPN) operations in a complex network and advanced network monitoring. Prior networking knowledge strongly recommended. Prerequisite: CIS 160 or Consent of Instructor. Four lecture.

B. Course Goals: Provide students with the knowledge and hands-on skills to design, build and monitor medium size networks with Wide Area Network protocols and services including VPNs, NAT, Netflow and SNMP.

C. Course Outcomes

Upon successful completion of this course, student will:

1. compare and contrast available WAN technologies and their benefits;
2. describe the operations and benefits of virtual private networks (VPNs) and tunneling;
3. configure, and troubleshoot serial connections;
4. configure, and troubleshoot broadband connections;
5. configure, and troubleshoot tunneling operations;
6. configure, and troubleshoot Network Address Translation (NAT) operations;
7. monitor and troubleshoot network operations using syslog, SNMP, and NetFlow;
8. and describe the following network architectures: Borderless networks, data centers and virtualization, and collaboration technology and solutions.

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. Point-to-Point Connections;

2. Network Address Translation for IPv4;
3. Broadband Solutions;
4. Securing Site-to-Site Connectivity;
5. Monitoring the Network;
6. and troubleshooting the Network.