COLLIN COLLEGE

COURSE SYLLABUS

Course Information

Course Number: ITCC 2374

Course Title: CCNP Routing - Implementing IP Routing

Course Description: How to implement, monitor, and maintain routing services in an enterprise network. How to plan, configure, and verify the implementation of complete enterprise LAN and WAN routing solutions using a range of routing protocols in IPv4 and IPv6 environments. Configuration of secure routing solutions to support branch offices and mobile workers. Lab required.

Course Credit Hours: 3
Lecture Hours: 2
Lab Hours: 3

Prerequisite: ITCC 2372 or CCNA Certification and consent of the Program Director

Student Learning Outcomes: Upon successful completion of this course, students will be able to do the following:

1. Explain TCP operations, UDP operations, Cisco Express Forwarding (CEF) concepts, IPv6 Network Address Translation, complex network requirements and design models for implementing advanced routing services in an enterprise network. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)
2. Implement RIP, RIPng, EIGRP and OSPF for IPv4 and IPv6 enterprise networks. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)
3. Exchange routing information between interior gateway protocols. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)
4. Implement various mechanisms for controlling routing updates and traffic. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)
5. Implement BGP to allow an enterprise network to connect to an ISP. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)
6. Describe DMVPN (single hub) and Easy Virtual Networking (EVN), basic implementation for branch office and mobile worker connectivity. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)
7. Implement IPv6 in an enterprise network. (SCANS: F1,F3-5,F8-12,F14,F16) (SCANS: C1,C10-16,C18-20)

Secretary's Commission on the Acquisition of Necessary Skills (SCANS) - SCANS skills are a group of foundational skills and workplace competencies that the Secretary's Commission on the Acquisition of Necessary Skills established as vitally important for workplace success in the 21st century. In Collin's workforce programs, the SCANS skills are developed and reinforced throughout the curriculum to provide students with an opportunity to hone these skills/competencies in the context of their education. Over the course of an entire degree program, the successful student is expected to demonstrate all of the SCANS skills and competencies as part of their education. The SCANS Foundation Skills and Workplace Competencies are described at:
http://www.collin.edu/academics/programs/Workforce_SCANS_Skills_Syllabi_Code_Key.pdf

Withdrawal Policy: See the current *Collin Registration Guide* for last day to withdraw.

Collin College Academic Policies: See the current *Collin Student Handbook.*

Americans with Disabilities Act Statement: Collin College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS office, SCC-D140 or 972.881.5898 (V/TTD: 972.881.5950) to arrange for appropriate accommodations. See the current *Collin Student Handbook* for additional information.