**COLLIN COLLEGE**

**COURSE SYLLABUS**

Course Information

**Course Number**: ITCC 2354

**Course Title:** CCNP R&S ROUTE

**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

**Prerequisites:** ITCC 2313 or CCNA Certification and consent of Associate Dean

**Student Learning Outcomes:**

* **State-mandated Outcomes:** Upon successful completion of this course, students will:

1. Explain complex network requirements and design models for implementing advanced routing services in an enterprise network.
2. Implement EIGRP and OSPF in an enterprise network.
3. Exchange routing information between interior gateway protocols.
4. Implement various mechanisms for controlling routing updates and traffic.
5. Implement BGP to allow an enterprise network to connect to an ISP.
6. Describe a basic implementation for branch office and mobile worker connectivity.
7. Implement IPv6 in an enterprise network.

* **Additional Collin Outcomes:** Upon successful completion of this course, students will:

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.
2. Implement RIP, RIPng, EIGRP and OSPF for IPv6.
3. Describe DMVPN (single hub) and Easy Virtual Networking (EVN).

**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.

*Fall 2017 New*