
SECTION HEADING

CST 2150: Advanced Routing Technology

Description

Advanced Routing Technology the third course in the CCNAV7 curriculum describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. Students gain skills to configure and troubleshoot enterprise networks, and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.

Credits

4

Prerequisite

CST 1500

Topics to be Covered

1. Wide area network (WAN) technologies
2. Quality of service (QoS) mechanisms used for secure remote access
3. ENSA also introduces software-defined networking, virtualization, and automation concepts that support the digitalization of networks

Learning Outcomes

1. Explain how single-area OSPF and OSPFv2 operates in both point-to-point and broadcast multiaccess networks.
2. Explain how vulnerabilities, threats, and exploits can be mitigated to enhance network security.
3. Explain how ACLs are used as part of a network security policy.
4. Implement Ipv4 ACLs to filter traffic and secure administrative access.
5. Configure NAT services on the edge router to provide IPv4 address scalability.
6. Explain how WAN access technologies can be used to satisfy business requirements.
7. Explain how VPNs and IPsec secure site-to-site and remote access connectivity.
8. Explain how networking devices implement QoS.
9. Implement protocols to manage the network.
10. Troubleshoot enterprise networks.
11. Explain the purpose and characteristics of network virtualization.
12. Explain how network automation is enabled through RESTful APIs and configuration management tools.

Credit Details

Lecture: 3

Lab: 1

OJT: 0