

Course Title	ADVANCED NETWORKS: ROUTING & SWITCHING
Course Code	CSC 301
Course Type	CORE REQUIREMENT OPTIONAL COURSE
Course Purpose and Objectives	<p>The course CSN 212 – Computer Networking II, is aligned with the course of CISCO Networking Academy: Routing and Switching Essentials.</p> <p>The second course in the CCNA curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLANs) and security concepts. Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. The course is taught based on a set of modules along with their associated competencies. Each module is an integrated unit of learning that consists of content, activities and assessments that target a specific set of competencies. The size of the module will depend on the depth of knowledge and skill needed to master the competency. Some modules are considered foundational, in that the artifacts presented, while not assessed, enable learning of concepts that are covered on the CCNA certification exam.</p>
Learning Outcomes	<ol style="list-style-type: none"> 1. Configure devices by using security best practices. 2. Explain how Layer 2 switches forward data. 3. Implement VLANs and trunking in a switched network. 4. Troubleshoot inter-VLAN routing on Layer 3 devices. 5. Explain how STP enables redundancy in a Layer 2 network. 6. Troubleshoot EtherChannel on switched links. 7. Implement DHCPv4 to operate across multiple LANs. 8. Configure dynamic address allocation in IPv6 networks. 9. Explain how FHRPs provide default gateway services in a redundant network. 10. Explain how vulnerabilities compromise LAN security. 11. Implement switch security to mitigate LAN attacks. 12. Explain how WLANs enable network connectivity. 13. Implement a WLAN using a wireless router and WLC. 14. Explain how routers use information in packets to make forwarding decisions. 15. Configure IPv4 and IPv6 static routes. 16. Troubleshoot static and default route configurations.
Course Content	<ul style="list-style-type: none"> • Basic device configuration • Switching concepts • Vlans • Inter-vlan routing • Stp • Etherchannel • Dhcpv4 • Slaac and dhcpv6 concepts • Fhrp concepts • Lan security concepts • Switch security configuration • Wlan concepts

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| | <ul style="list-style-type: none">• Wlan configuration• Routing concepts• Ip static routing• Troubleshoot static and default routes |
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