

# COMPUTER NETWORKING TECHNOLOGY (CNT)

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## **CNT 201 Microsoft Client/Server Administration (3 Credits)**

45 lecture, 3 total contact hours

In this course, students learn to install, configure, and administer the Microsoft Windows Client operating system in a standalone, workgroup, and domain environment. Topics covered include configuring file systems, security, and network settings. Students will learn troubleshooting techniques and industry standards for deployment. A basic understanding of Windows operating systems and networking principles is required. The title of this course was previously Administering Microsoft Windows Client Operating Systems. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 2 Level II Prerequisite: CST 160 minimum grade "C" is highly recommended for students who have no prior experience with Computer Security.

## **CNT 206 Introduction to Networks (4 Credits)**

60 lecture, 4 total contact hours

In this course, students are introduced to the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of internet protocol (IP) addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LANs), perform basic configurations for routers and switches, and implement IP addressing schemes. This is the first course in the CISCO Certified Network Associate (CCNA) curriculum at WCC and helps students prepare for a portion of the CCNA certification examination. Level I Prerequisite: Academic Reading and Writing Levels of 6

## **CNT 211 Server Administration I (4 Credits)**

60 lecture, 4 total contact hours

In this course, students learn to administer Microsoft Server in a small-to-medium business environment. Topics covered include managing server roles, Internet Protocol (IP) addressing or Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), Active Directory, Group Policy, Storage Management, and Virtualization. An intermediate understanding of Windows operating systems and networking principles is required. The title of this course was previously Installation, Storage, and Compute - Windows Server. Level I Prerequisite: Academic Reading and Writing Levels of 6; CNT 201 minimum grade "C", may enroll concurrently

## **CNT 216 Switching, Routing and Wireless Essentials (4 Credits)**

60 lecture, 4 total contact hours

In this course, students will focus 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, perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN. This is the second course in the CISCO Certified Network Associate (CCNA) curriculum at WCC and helps students prepare for a portion of the CCNA certification examination. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 2; CNT 206 minimum grade "C-" may enroll concurrently

## **CNT 223 Networking with Windows Server (4 Credits)**

60 lecture, 4 total contact hours

In this course, students will learn the skills and knowledge necessary to work in a Windows Server environment. Topics include networking basics such as IPv4 and IPv6 addressing, inter-LAN communication between windows servers and clients, DHCP and DNS server installations and configuration, remote access services including routing, dial-up, VPNs, direct access, radius server, NIC teaming, network address translation, remote desktop gateway, distributed file system, branch caching, and IPAM. The title of this course was previously Networking with Windows Server 2016. Level I Prerequisite: Academic Reading and Writing Levels of 6

## **CNT 224 Identity with Windows Server (4 Credits)**

60 lecture, 4 total contact hours

In this course, students will learn the skills and knowledge necessary to manage and maintain the core infrastructure required for a Windows Server environment. Topics include all aspects of active directory and includes initial A.D. and DNS installations, as well as creating and managing users, groups, and computers. Group policies are emphasized which include security policies, auditing, inheritance, software installations, folder redirection, logon scripts, and printer installations. Also covered are dynamic access control, trusts, sites, certificate server, and delegation. The title of this course was previously Identity with Windows Server 2016. Level I Prerequisite: Academic Reading and Writing Levels of 6

## **CNT 226 Enterprise Networking, Security, and Automation (ENSA) (4 Credits)**

60 lecture, 4 total contact hours

In this course, students gain the skills necessary to configure and troubleshoot enterprise networks, and learn to identify and protect against cybersecurity threats utilizing wide area network (WAN) technologies and quality of service (QoS) mechanisms for secure remote access. Enterprise Networking, Security, and Automation (ENSA) also introduces software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students are also 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. This is the third course in the Cisco Certified Network Associate (CCNA) curriculum at WCC and helps students prepare for a portion of the CCNA certification examination. Level I Prerequisite: Academic Reading and Writing Levels of 6; CNT 216 minimum grade "C-" or equivalent

## **CNT 290 Network Forensics (4 Credits)**

60 lecture, 4 total contact hours

In this course, students will be introduced to various tools and concepts associated with network forensics, including protocol and services monitoring, event detection and the analysis of network packet capture files. Network topologies examined include enterprise, local area network (LAN), wide-area network (WAN) and wireless configurations, and the use of forensics tools for end-point analysis. Students will perform configuration, monitoring and troubleshooting of various network services and after-event analysis of network intrusions. Level I Prerequisite: Academic Reading and Writing Levels of 6; CSS 210 or CNT 216, minimum grade "C"

**CNT 295 CNT Cisco Certification Preparation (1 Credit)**

15 lecture, 1 total contact hours

In this course, students will apply their knowledge of computer networking to application and preparation for the CCNA Routing and Switching certification exam. Level I Prerequisite: Academic Reading and Writing Levels of 6; CNT 206, CNT 216 and CNT 226, minimum grade "C"; may enroll concurrently in CNT 226