

CISCO NETWORKING AND SECURITY TECHNOLOGIES (CNST)

QUICK FACTS: CNST COURSES

- **Instructional School:** Science, Technology, and Math
- **Department:** Information Technology

CNST 124 IT Essentials

(6 Credits, Fall)

Introduces the fundamentals of computer and mobile device hardware and software, security, networking, and the responsibilities of an IT professional. Includes scripting basics, sharing resources in a networked environment, using remote access technologies, IoT device configuration and communication types, and best practices in documentation and change management. PREREQ: Cisco Networking and Security Technologies major. COREQ: CNST 127. PRE/COREQ: Placement into MATH 123 or concurrent enrollment in any GEM 3 course. (3 lecture hours, 6 lab hours, 6 credits)

CNST 127 Introduction to Networks

(6 Credits, Fall)

Introduces the architecture, structure, functions, and components of the Internet and other computer networks. Includes network operations, building simple local area networks (LANs), performing basic configurations for routers and switches, and implementing Internet Protocol (IP). PREREQ: Cisco Networking and Security Technologies major. COREQ: CNST 124. PRE/COREQ: Placement into MATH 123 or concurrent enrollment in any GEM 3 course. (3 lecture hours, 6 lab hours, 6 credits)

CNST 129 Switching, Routing, and Wireless Essentials

(6 Credits, Spring)

Introduces the architecture, components, and operations of routers and switches in small networks, wireless local area networks (WLANs), and security concepts. Includes configuring and troubleshooting routers and switches for advanced functionality using security best practices and resolving common issues with protocols in both IPv4 and IPv6 networks. PREREQ: CNST 124 and CNST 127. COREQ: CNST 135. (3 lecture hours, 6 lab hours, 6 credits)

CNST 135 Enterprise Networking, Security, and Automation

(6 Credits, Spring)

Introduces the design, configuration, operation, securing, and troubleshooting of enterprise networks. Includes WAN technologies and QoS mechanisms used for secure remote access; software-defined networking, virtualization, and automation concepts that support the digitalization of networks; and identifying and protecting against cybersecurity threats. Emphasis on the attainment of Cisco CCNA certification. PREREQ: CNST 124 and CNST 127. COREQ: CNST 129. (3 lecture hours, 6 lab hours, 6 credits)

CNST 199 Cisco Networking and Security Technologies Special Topics

(1-5 Credits, Varies)

This course is designed to permit the offering of special topics appropriate to a student's program. Regular or frequently recurring topics are not offered under this title. The course may be repeated as new topics are presented. (1 lecture hours, 0 lab hours, 1 credits)

CNST 230 Linux Essentials

(4 Credits, Fall)

Through an introduction to the Linux command line and associated tool usage, students learn file management and editing, installation of the operating system, basic hardware configuration, package management, understanding virtualization, process monitoring, understanding, maintaining, and configuring the filesystem, and user account management of file permissions and ownership. This course aligns with the LPIC-1 certification exam. PREREQ: CNST 129 and CNST 135. (2 lecture hours, 4 lab hours, 4 credits)

CNST 238 Cisco Certified Network Associate (CCNA) Cyber Ops

(4 Credits, Fall)

This course examines the roles and responsibilities of IT security team members. It includes computer forensics, threat analysis, and incident response for network security administrators and engineers using Cisco equipment and devices. The curriculum is aligned with and emphasizes the attainment of the Cisco certification exam 200-201 Understanding Cisco Cybersecurity Operations Fundamentals (CBROPS). Students are highly encouraged to have a current Cisco CCNA certification before registering for this course. PREREQ: CNST 129 and CNST 135. COREQ: CNST 230 and CNST 240. (2 lecture hours, 4 lab hours, 4 credits)

CNST 240 Virtualization Technologies

(4 Credits, Fall)

Concepts and configuration of enterprise virtualization. Includes virtual machine provisioning and resource management. PREREQ: CNST 129 and CNST 135. COREQ: CNST 230 and CNST 238. (2 lecture hours, 4 lab hours, 4 credits)

CNST 242 Cisco DevNet Associate

(4 Credits, Spring)

Examination of basic networking applications and how to implement automation workflows across network, security, collaboration, and computing infrastructure. Includes use of Cisco and other application program interfaces (APIs), as well as modern development tools. This course meets the requirements for the Cisco Certified DevNet Associate certification. PREREQ: CNST 230, CNST 238, and CNST 240. COREQ: CNST 244 and CNST 249. (2 lecture hours, 4 lab hours, 4 credits)

CNST 244 Linux Advanced

(4 Credits, Spring)

Students examine shells and shell scripting, user interfaces and desktops, administrative tasks, essential system services, network fundamentals, and security. This course aligns with the LPIC-1 certification exam 102-500 (2 of 2). PREREQ: CNST 230, CNST 238, and CNST 240. COREQ: CNST 242 and CNST 249. (2 lecture hours, 4 lab hours, 4 credits)

CNST 249 Command Line and Scripting Fundamentals

(4 Credits, Spring)

Command line usage and scripting are essential skills for any network professional who wants to stay relevant and efficient in the fast-changing IT landscape. This course teaches the fundamental skills necessary for working in a command-line environment of today's common operating systems including PowerShell and Linux Bash. It offers an introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis. It also introduces programming languages like Python and markup languages that are crucial for writing automation scripts for network administration tasks. PREREQ: CNST 230, CNST 238, and CNST 240. COREQ: CNST 242 and CNST 244. (2 lecture hours, 4 lab hours, 4 credits)

CNST 296 Cisco Networking & Security Technologies Independent Study

(1-10 Credits, Varies)

This is a term-long project. Each credit hour is equivalent to 45 hours of work on a project. Students should make arrangements with the instructor in their field of interest. Before enrolling for independent study, a student must obtain approval of the department chair and dean, acting on the recommendation of the instructor who will be supervising the independent study. An Independent Study Registration Form must be completed and turned into a One Stop Student Services location before a student may register for this course. PREREQ: PERM/INST and submission of a completed Independent Study Registration Form. *(0 lecture hours, 0 lab hours, 1 credits)*

Refer to [How to Read Course Descriptions](#) for an explanation of elements found in the course descriptions above.