Cisco Certified Network Associate v7 Bridging Content

2023-20\[...\] Catalog

[ARCHIVED CATALOG]

NETI 218 - Cisco Certified Network Associate v7 Bridging Content

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PREREQUISITES: NETI 115 - Routing and Switching or NETI 215 - Connecting Networks; or a valid CCNA certification completed before 2/24/2020; and Program Chair approval.
PROGRAM: Network Infrastructure
CREDIT HOURS MIN: 1
LECTURE HOURS MIN: 1
DATE OF LAST REVISION: Fall, 2019

Covers the additional content on the new CCNA 200-301 Exam Students transitioning from the previous version of the CCNA curriculum (v6.0) can use this course to learn the new concepts. Students will develop skills necessary to configure WLANs (Wireless LANs) using WLC (Wireless LAN Controller) and Layer 2 security best practices. Explain how vulnerabilities, threats, and exploits can be mitigated to enhance network security, explain how VPNs (Virtual Private Networks) and IPsec secure site-to-site and remote access connectivity, and explain how network automation is enabled through RESTful APIs and configuration management tools.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course, the student will be expected to:

- Switching, Routing, and Wireless Essentials
     1. LAN Security Concepts - Explain how vulnerabilities compromise LAN security.
     2. Switch Security Concepts - Configure switch security to mitigate LAN attacks.
     3. WLAN Concepts - Explain how WLANs enable network connectivity.
     4. WLAN Configuration - Implement a WLAN using a wireless router and WLC.
- ENSA Enterprise Networking, Security, and Automation
     1. Network Security Concepts - Explain how vulnerabilities, threats, and exploits can be mitigated to enhance network security.
     2. VPN and IPsec Concepts - Explain how VPNs and IPsec are used to secure site-to-site and remote access connectivity.
     3. Network Automation - Explain how network automation is enabled through RESTful APIs and configuration management tools.

COURSE CONTENT: Topical areas of study include -

- Endpoint Security
- Access Control
- Layer 2 Security Threats
- MAC Address Table Attack
- LAN Attacks
- Port Security
- Mitigate VLAN Attacks
- Mitigate DHCP Attacks

- Mitigate ARP Attacks
- Mitigate STP Attacks
- Components of WLANs
- CAPWAP Operation
- Channel Management
- WLAN Threats
- Secure WLANs
- WEP/WPA2
- Threat Actors
- Current State of Cybersecurity
- Common Network Attacks
- Malware
- TCP and UDP Vulnerabilities
- IP Vulnerabilities
- VPN Technology
- Cryptography
- Automation
- IPsec
- APIs
- Data Formats
- IBN and Cisco DNA Center
- REST

CERTIFICATION/LICENSURE DISCLAIMER:

Ivy Tech cannot guarantee that any student will pass a certification or licensing exam. Your success will be determined by several factors beyond the instruction you are given in the classroom including your test-taking skills, your willingness to study outside of class, and your satisfactory completion of appropriate practice exams. Certification exam questions are drawn from databases of tens of thousands of possible questions and no two people are asked exactly the same progression of questions. Therefore, a thorough understanding of the subject matter is required. The goal of Ivy Tech in providing a certification exam studies class is to assist you in understanding the material sufficiently to provide a firm foundation for your studies as you prepare for the exam.

COURSE INSTRUCTIONAL LAB REQUIREMENTS:

The College has determined this course has specific laboratory requirements. The requirements are listed below for hardware and software, along with specifics determined for various delivery methods.

HARDWARE REQUIREMENTS:

1. Course must be taught in a School of Information Technology Lab.
2. Minimum of one Cisco Network Academy Equipment List option 1.

SOFTWARE REQUIREMENTS:

1. Proctored Final Exam and Skills Exam, using an on-campus network lab or "NetLab (NDG)" are required.
2. Cisco's Networking Academy Learning Management System.
3. Wireshark packet analyzer (latest version).
4. Cisco's Packet Tracer network simulator (latest version).
5. Terminal Emulation Software.
   a. Tera Term (latest version).
   b. PuTTY (latest version).

6. TFTP 32 (latest version).

[Course Addendum - Syllabus (Click to expand)](#)