TRENDS | **Academy**
Learning | Evolving | Empowering

Campus Access Fundamentals, Rev. 22.41

Duration: 5 Days

Course Description:

This course teaches you the fundamental knowledge, skills, and practical experience required to configure and manage modern, open standards-based networking solutions using HPE Aruba Networking's wired, wireless, security, and management technologies. Redundancy technologies such as Multiple Spanning Tree Protocol (MSTP), link aggregation techniques including Link Aggregation Control Protocol (LACP) and switch virtualization with HPE's Virtual Switching Framework (VSF) are taught. This course consists of approximately 60% lecture and 40% hands-on lab exercises to help you learn how to implement and validate small-to-medium enterprise network solutions. This 5-day course prepares you for the Aruba Certified Associate - Campus Access exam.

Target Audience:

The ideal candidate has 1+ years of experience with networking, and a vendor-agnostic understanding of basic network protocols. Under the direction of a Professional or Expert, can apply the configuration and verify the status of a campus network.

Prerequisites:

It is recommended that candidates have foundational networking experience or attend HPE Aruba Networking's Essentials eLearning series to glean knowledge on HPE Aruba Networking's Campus Access design solution.

Course Objectives:

After you successfully complete this course, expect to be able to:

- Explain Networking Fundamentals
- Install and configure devices running the HPE Aruba Networking CX Switch Operating System
- Describe and configure VLANs

- Explain, describe and configure Spanning Tree Protocol
- Understand when to use VRRP and how to configure it
- Explain and configure Link Aggregation
- Understand and configure IP Routing
- Understand and configure OSPFv2 – Single Area
- Describe and configure switch stacking using VSF
- Describe the HPE Aruba Networking ESP platform and product portfolio
- Perform AP onboarding
- Explain how HPE Aruba Networking's wireless networking solutions meet customers' requirements
- Explain fundamental WLAN technologies, RF concepts, and 802.11 standards
- Recognize and explain Radio Frequency Bands and channels, and the standards used to regulate them
- Describe the concept of radio frequency coverage and interference and successful implementation and diagnosis of WLAN systems
- Identify and differentiate antenna technology options to ensure optimal coverage in various deployment scenarios
- Describe RF power technology including, signal strength, how it is measured and why it is critical in designing wireless networks
- Control secure access to the WLAN using HPE Aruba Networking Firewall Policies and Roles
- Perform network monitoring functions and troubleshooting

Course Outlines:

Networking Fundamentals
- ➤ Define networking, LAN, WAN and their components
- ➤ Explain OSI model & encapsulation
- ➤ Discuss different types of physical media
- ➤ Compare unicast, multicast, and broadcast
- ➤ Explain TCP/IP stack
- ➤ Discuss different types of networking devices

Switching Fundamentals
- Explain how to connect to and access a switch
- Describe initial switch setup
- Describe how to and configure VLANs, tagging, and IP addressing
- Explain how to use LLDP and ICMP for network discovery and diagnosis
- Explain how to configure link aggregation to improve performance/resiliency

Basic IP Setup
- Discuss Inter-VLAN routing
- Explain DHCP relay
- Discuss static IP routing
- Explain how to configure single-area OSPF

Network Redundancy
- Discuss Spanning Tree
- Explain VRRP and VSX

VSF
- Describe VSF
- Explain how to configure VSF
- Describe Auto-VSF
- Explain VSF MAD

Introduction to HPE Aruba Networking Solutions
- Discuss ESP
- Introduce HPE Aruba Networking switching products
- Introduce HPE Aruba Networking WLAN portfolio
- Introduce HPE Aruba Networking Central
- Introduce HPE Aruba Networking ClearPass

Central for Device Management
- Explain how to perform device onboarding
- Describe how to create HPE Aruba Networking Central Groups
- Describe UI config mode
- Describe template config mode
- Describe HPE Aruba Networking Central licensing

Device Profiling and AP onboarding
- Describe the use of device profiling
- Describe LLDP and MAC profiling
- Explain how to connect APs to HPE Aruba Networking Central
- Explain how to perform initial AP setup

WLAN Fundamentals
- Describe the fundamentals of 802.11, RF frequencies and channels
- Explain RF Patterns and coverage including SNR
- Roaming Standards and QOS requirements
- Describe aspects of RF design
- Explains how to configure WLANs

Implementing Secure WLANs
- Explain AAA
- Describe 802.1X authentication
- Explain how to configure secure WLANs
- Discuss roles and access rules

Guest Access
- Describe guest access
- Explain how to set up captive portal authentication
- Describe how to configure guest WLANs

WLAN Security
- Describe WLAN security
- Explain certificates
- Describe cloud authentication

Monitoring and Maintenance
- Explains the use HPE Aruba Networking Central monitoring capabilities
- Describe how to identify LED status
- Explain how to perform firmware upgrades
- Describe how to enable SNMP on devices
- Describe AI Insights
- Describe Alerts & Reports
- Explain UXI

Troubleshooting
- Describe how to perform password recovery and factory reset procedures
- Explain HPE Aruba Networking Central connectivity troubleshooting
- Describe how to enable spectrum analysis
- Explore HPE Aruba Networking Central troubleshooting tools

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