COURSE OUTLINE

HW-HCSPPCNPD
Huawei Certified Specialist Professional: Presales - Campus Network Planning and Design

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
5 Days	Pre-Sales Professional	Campus Networks Planning and Design	ILT/VILT	Huawei Learning vouchers accepted

INTRODUCTION

The 5-day HCSP-Presales-Campus Network Planning and Design V1.0 course will cover covers basic campus network knowledge, network access control, free mobility, major CloudCampus products such as switches, WLAN devices, NCE-Campus, NCE-CampusInsight, cloud management, and SD-WAN, and related basic technologies and solution design

AUDIENCE PROFILE

This course is intended for pre-sales professionals of partners who sell sell Huawei enterprise Campus Network products and Campus Network solutions, and those who want to obtain the HCSP-Presales-Campus Network Planning and Design V1.0 certification

PREREQUISITES

It is highly advisable to have completed the HCSA-Presales-IP Network training course.

COURSE OBJECTIVES

On completion of this course, participants should be able to:

- Describe the concept of campus networks.
- Describe the position of a campus network on an end-to-end large network.
- Describe different types of campus networks and their characteristics.
- Describe the logical and physical architectures of a typical campus network.
- Describe typical campus networks for different industries and their characteristics.
- Describe the development trends of and challenges facing campus networks.
- Describe Huawei CloudCampus Solution
- Describe basic concepts of NAC.
- Describe typical authentication technologies, working mechanisms, and application scenarios.
- Describe functions and principles of policy association.
- Describe Huawei NAC solution.
- Describe the architecture and key components of the CloudCampus Solution.
- Describe the key functions or features included in the full-lifecycle automation capability of CloudCampus.
- Describe the basic principles and benefits of native WAC.
- Describe the technical innovation, architecture, and application scenarios of the "Solar System" solution.
- Describe the VXLAN-based virtualized campus network solution.
- Describe the features and advantages of free mobility when compared with the traditional ACL solution.
- Describe the benefits and application scenarios of the SD-WAN solution.
- Briefly describe the intelligent O&M solution of CloudCampus
- Describe the main factors that affect WLAN air interface performance.
- Describe common radio calibration technologies.
- Distinguish between Layer 2 roaming and Layer 3 roaming.
- Understand how WLAN QoS is implemented.
- Describe the architecture and components of Huawei SD-WAN Solution.
- Describe the implementation of Huawei SD-WAN Solution.

- Describe the functions of the customer-premises equipment (CPE).
- Describe the position of iMaster NCE-Campus on a campus network.
- Describe the overall architecture of iMaster NCE-Campus.
- Describe the overall capabilities of iMaster NCE-Campus.
- Describe the application scenarios of iMaster NCE-Campus
- Describe the pain points and requirements of intelligent O&M of campus networks.
- Describe the application scenarios (on-premises, Huawei public cloud, and MSP-owned cloud) and deployment modes (independent deployment and co-deployment with CloudCampus) of CampusInsight.
- Describe typical networking scenarios of CampusInsight.
- Describe the logical architecture and external interfaces of CampusInsight.
- Describe the main functions and features of CampusInsight.
- Describe the fundamentals and applications of CampusInsight.
- Understand major issues and master CampusInsight operations.
- Describe the WLAN planning and delivery process.
- Collect requirements and perform site survey in WLAN projects.
- Perform device selection, coverage analysis, and capacity design in WLAN projects.
- Perform channel planning, power supply cabling design, and AP installation mode design in WLAN projects.
- Have a good command of WLAN project acceptance methods.
- Describe the key network elements (NEs) of WLANs.
- Describe major Huawei WLAN solutions and networking architectures.
- Understand the differences between WLAN solutions.
- Describe typical WLAN networking solutions.
- Design WLAN networking solutions based on feature requirements.
- Describe common WLAN service types and challenges in the enterprise office and education scenario.
- Have a good grasp of WLAN planning and design rules in the enterprise office and education scenario.
- Describe Huawei's WLAN construction standards for the enterprise office and education scenarios.
- Understand how to plan a WLAN network in the enterprise office and education scenario.
- Describe service requirements, development trend, and challenges of small- and medium-sized campus networks.
- Describe the architecture of Huawei CloudCampus Solution for small- and medium-sized campus networks.
- Describe typical networking solutions for small- and medium-sized campus networks.
- Independently design the CloudCampus Solution for small- and medium-sized campus networks based on user requirements, including networking design, physical network design, site deployment design, basic network service design, WLAN design, access control design, QoS design, security design, and O&M management design
- Describe the implementation principles of SD-WAN flexible networking.
- Describe the networking modes of the SD-WAN Solution.
- Complete the planning and design of an enterprise SD-WAN network.
- Describe the multi-tenant management of Huawei's SD-WAN Solution.
- Describe SD-WAN deployment modes and application scenarios.
- Describe the application experience optimization process.
- Describe benefits of link quality measurement (LQM).
- Describe application scenarios of HQoS.
- Differentiate traffic steering policies
- Understand the multi-campus network interconnection requirements and complete the requirement analysis.
- Describe mainstream multi-campus network interconnection solutions and overall architecture models.
- Describe the differences between the IPsec VPN and SD-WAN interconnection solutions.
- Select a multi-campus network interconnection solution based on actual requirements.
- Complete the network design for SD-WAN interconnection based on actual requirements.
- Describe the typical networking for multi-campus network interconnection.
- Describe the highlights of the CloudCampus solution.
- Complete the demonstration in the LAN-WAN scenario of the CloudCampus solution.

COURSE CONTENT

Lesson 1 : Huawei Campus Network CloudCampus Solution
- CloudCampus Overview
- Typical Application Scenarios of Campus Networks
- Trends and Challenges Facing Campus Networks
- Huawei CloudCampus Solution

Lesson 2 : Network Access Control (NAC)
- Introduction to NAC
- User Authentication Technologies
- User Authorization and Logout
- Policy Association
- Introduction to Huawei NAC Solution
- Free Mobility Solution

Lesson 3: Huawei CloudCampus Solution
- CloudCampus Overview
- Full-Lifecycle Management and Automation of Campus Networks
- Ultra-Broadband Connectivity
- Simplified Network
- Multi-Purpose Network
- Access Authentication
- Intelligent Policy

- Intelligent O&M
- Intelligent Security

Lesson 4: WLAN RRM
- Air Interface Performance
- Radio Calibration
- Band Steering
- Anti-Interference Technologies
- Roaming
- WLAN QoS
- VIP User Experience Guarantee
- Intelligent Multimedia Scheduling Algorithm

Lesson 5 Technical Overview of Huawei SD-WAN Solution
- Architecture and Components of Huawei SD-WAN Solution
- Introduction to Huawei iMaster NCE
- Implementation of Huawei SD-WAN Solution
- Huawei SD-WAN CPE
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Lesson 6 iMaster NCE-Campus
- iMaster NCE-Campus Overview
- iMaster NCE-Campus Application Scenarios
- Network Management
- Access Authentication
- Free Mobility
- Intelligent Terminal Management
- Multi-Purpose Network
- LAN-WAN Convergence
- Deployment Mode

Lesson 7: iMaster NCE-CampusInsight — Campus Network Analyzer
- iMaster NCE-CampusInsight Overview
- Product Technical Highlights

Lesson 8: Enterprise WLAN Planning and Design
- WLAN Planning and Design Overview
- WLAN Planning and Design Details
- WLAN Project Acceptance
- WLAN Planning Cases

Lesson 9: Enterprise WLAN Networking Design
- WLAN Networking Overview
- WLAN Networking Architectures
- Typical WLAN Networking Solutions

Lesson 10: Scenario-based Enterprise WLAN Design – Enterprise
- Enterprise Office Scenario Overview
- WLAN Planning and Design for Enterprise Office Scenarios
- Huawei's WLAN Construction Standards for Enterprise Office Scenarios
- Typical WLAN Design Case in Enterprise Office Scenarios

Lesson 11: Scenario-based Enterprise WLAN Design – Education
- Education Scenario Overview
- WLAN Planning and Design for Education Scenarios
- Huawei's WLAN Construction Standards for Education Scenarios
- Typical WLAN Design Case in Education Scenarios

Lesson 12: CloudCampus Solution Design Guide for Small- and Medium-Sized Campus Networks
- Service Requirements and Challenges of Small- and Medium-Sized Campus Networks
- Huawei CloudCampus Solution Overview
- Huawei CloudCampus Solution Design for Small- and Medium-Sized Campus Networks
- Typical Industry Application Scenarios

Lesson 13: Campus SD-WAN Networking Principles and Planning
- Basic Concepts of SD-WAN Networking
- Implementation Principles of SD-WAN Networking
- SD-WAN Networking Design

Lesson 14: SD-WAN Device Deployment
- SD-WAN Deployment Overview
- SD-WAN Tenant Management
- SD-WAN ZTP

Lesson 15: Campus SD-WAN Application Experience
- Application Experience Solution Overview
- Application Identification and Intelligent Traffic Steering
- HQoS
- WAN Optimization

Lesson 16: Multi-Campus Network Interconnection Design Guide
- Overview of the Multi-Campus Network Interconnection Solution
- Multi-Campus Network Interconnection Solution Selection
- Network Design for the SD-WAN Interconnection Solution

Lesson 17: CloudCampus Solution Demonstration Guide
- Overview of CloudCampus
- Demo Environment
- Demo Guide

ASSOCIATED CERTIFICATIONS & EXAM

Passing the HCSP-Presales-Campus Network Planning and Design V1.0 certification exam #H19-401 proves that you are able to build Campus Network Solutions including LAN&WLAN and SD-WAN solutions, independently operate projects, conduct solution technical communication, identify customer pain points, develop appropriate solutions, and have strong competitive analysis and quotation capabilities