

**CWDP****Certified Wireless Design Professional**

40 horas

CWDP

CWNP

**INTRODUÇÃO**

The CWDP Wireless LAN Design course consists of instructor-led training applicable to the design of wireless LANs using the latest technologies including 802.11n and 802.11ac. The course goes in-depth into the design process and provides attendees with the knowledge needed to plan, deploy and test modern 802.11-based networks. It also prepares students for the CWDP examination.

Students who complete the course will acquire the necessary skills for preparing, planning performing and documenting site surveys and wireless LAN design procedures.

**OBJETIVO DO CURSO**

The CWDP Wireless LAN Design course objectives:

- Understand the requirements analysis and documentation procedures;
- Define the security requirements of the WLAN including security solutions;
- Document the physical coverage requirements of the WLAN;
- Determine requirements for bridge links;
- Understand and implement the knowledge require to upgrade existing WLANs;
- Describe the building factors impacting the WLAN design;
- Explain and perform the different types of site surveys;
- Understand and utilize site survey tools;
- Describe proper site survey procedures;
- Implement channel plans according to the design recommendations;
- Understand the basic installation procedures used for different WLAN architectures;
- Identify the purpose and methods of post-installation site surveys;
- Understand and use the appropriate tools in the validation process;
- Understand and implement methods for troubleshooting;
- Define metrics and other information collected and reported during a site survey;
- Understand the different methodologies used in site surveys;
- Explain and perform procedures required for outdoor site surveys;
- Plan for RF management including channel usage, MCA and SCA and RRM;
- Design appropriate 802.11 channel plans;
- Select access points (APs) and define configuration and installation parameters;
- Describe the varied configuration processes for different AP deployment models;
- Design branch and remote office WLAN deployments;
- Design mesh networks including mesh access networks;
- Design bridge links including determination of appropriate line of sight.

## **PÚBLICO-ALVO**

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Recommended training for professionals interested on Designing Wireless Networks, and who will take the CWDP certification exam.

## **PRÉ-REQUISITOS**

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CWNA certificate professional or equivalent knowledge.

## Course Introduction

Course Outline

Course Goals & Objectives

## WLAN Design Overview

Importance of good design

Impact of bad design

Design process

Design skills

Design toolkit

Pre-planning

Customer interaction

Requirements gathering

Discovering existing systems

Documenting the environment

Defining constraints

Creating documentation

Client device types

Application types

Application-specific design

High density design issues

Standard corporate networks

## Industry-specific designs

Government

Healthcare

Hospitality

Education

Retail

Public hotspots

Transportation

Mobile offices

Outdoor and mesh

Remote networks and branch offices

Last-mile/ISP and bridging

## Defining vendor issues

Operational planes

## Design models

Understanding architecture differences

RF spectrum

RF behaviors

Modulation and coding schemes

RF accessories

Throughput factors

Antennas

802.11n and antennas

Choosing APs

## Site Survey

Site survey tools

Site survey preparation

Predictive site surveys

Manual site surveys

Site survey principles and processes

## QoS

Quality of Service (QoS) overview

QoS application points

Roaming support

## Security

Bad security

Authentication solutions

Encryption solutions

Security best practices

Intrusion prevention

## Network health status

Troubleshooting and validation process

Troubleshooting and validation tools

Common problems

## Requirements Analysis

Designing for Clients and Applications

Designing for Industry

Vendor Selection Processes

Radio Frequency Planning

WLAN Hardware Selection

Site Surveys

Designing for QoS

Designing for Security

## Installation Testing, Validation and Troubleshooting

Design Troubleshooting

## Case Studies

Case studies may be used in groups to explore concepts learned in the lecture materials.

Potential case studies include:

- Designing for future capacity
- Designing in a moderate interference environment
- Designing multiple SSID networks

## Dynamic Hands-on Lab Exercises

Trainers may include hands-on lab time using any or all of the following tools:

- Spectrum analyzer
- Protocol analyzer

- Site survey software
- Diagramming software
- Various wireless adapters and antennas
- Various wireless APs