

CompTIA A+ Core 1 (220-1201)

Get the skills you need to launch your IT career with this entry-level CompTIA A+ training. Covering the full Core 1 (220-1201) exam, you'll learn how to troubleshoot PCs, set up mobile devices, and support cloud services. Build real-world, practical skills you can apply on day one as a Help Desk Technician, IT Support Specialist, or similar role. Start strong, get certified, and open the door to bigger opportunities in tech.

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WEEK 1

Laptop Device Hardware and Replacement

Mobile Device Battery
Field Replaceable Units
Field Replaceable Units
Validation

Smartphones, Tablets, and Accessories

Tablet vs. Smartphone
Additional Mobile Hardware
Biometric Hardware
Mobile Device Connections
Port Replicators and Docking Stations
Validation

Mobile Data, Wi-Fi Basics, and Location

Cellular Technologies
Metered Connections
Subscriber Identity Module (SIM)

WEEK 2

Wi-Fi Basics
Cell Tower Triangulation
Global Positioning System (GPS)
Location Services
Validation

Mobile Device Management

Intro to Mobile Device Management

Azure, Entra ID, and Intune

Intune Configuration Profiles

Demonstrate Mobile Device Management

Validation

Mobile Device Synchronization, Bluetooth

Mobile Device Synchronization

Device Synchronization with Google Drive

Bluetooth Technology

Bluetooth Pairing via App or Settings

Validation

Understanding Network Protocols

Introduction to Network Protocols

Network Protocols Overview

The TCP/IP Model

Common Application Layer Services

WEEK 3

TCP and UDP

Well-Known Port Numbers

Let's Reinforce and Validate What We Have Learned

Explain Wireless Networking Technologies

Intro to Wireless Networking Technologies

Wireless Technologies Overview

Wi-Fi Frequencies and Channels

Wi-Fi 802.11 Standards

Wi-Fi Security

Wi-Fi Example

Home Wi-Fi

Customer Scenario

Summarize Network Hosted Services

Intro to Network Services

Network Services Overview

SCADA and Legacy and IoT

Physical and Virtual Servers and Appliances

DNS Services

DHCP Services

Authentication and Logging Services

Unified Threat Management (UTM)

Internet of Things (IoT) Devices

Customer Scenario

Explain Common Network Configurations

Intro to Common Network Configurations

Common Network Configuration Overview

DNS Record Types

WEEK 4

Configure DNS

Configure DHCP

Working with VLANs

Working with VPNs

Hands-on Lab

Identify Common Networking Devices

Introduction to Common Networking Devices

Network Devices Overview

Switches

Routers

Firewalls

Connectivity Options

Reinforce your Learning

Configure IPv4 Addresses

Intro to IP Addressing

IPv4 Fundamentals

IPv4 Routes

Configure an IPv4 Address on a User Computer

Configure an IPv4 Address on a Router Interface

Lab

Configure IPv6 Addresses

Intro to IPv6 Addresses

IPv6 Addressing Overview

IPv6 Address Types

Configure IPv6 on a Client Computer

Configure IPv6 on a Router

IPv6 Lab

Compare Network Types and Connections

Intro to Network Types and Connections

Internet Connection Types

WEEK 5

The Importance of NAT

Fault Tolerant and Intelligent Internet Access

Network Types

Storage Area Network

Reinforce What You Have Learned

Describe Networking Tools and Their Purpose

Intro to Networking Tools

Networking Tools Overview

Crimpers and Cable Strippers

Punch-Down Tool

Cable Tester

Tone Generator and Probe

Wi-Fi Analyzer

Network Tap

Reinforce Your Learning

Graphics Cards, Intro to LCD / LED

The Graphical Processing Unit (GPU)

Graphical Processing Unit (GPU) Uses

Let's Check Out Video Cards!

Display Technology

WEEK 6

Validation

LCD and LED Types, Display Attributes

In-Plane Switching (IPS) LCD

Twisted Nematic (TN) LCD
Vertical Alignment (VA) LCD
Min-LED LCD
Organic LED (OLED)
Touch Screen
Attributes
Calibration
Validation

Video Cables and Connectors

Introduction
Video Graphics Array (VGA)
Digital Visual Interface (DVI)
High-Definition Multimedia Interface (HDMI)
DisplayPort (DP)
Video Resolution and Performance
Validation

Serial, USB, and Thunderbolt

Serial Cables
Universal Serial Bus (USB)
USB Versions
USB-C Alt Mode and Thunderbolt
Validation

Additional Connectors, Network Cables/Connectors

Serial ATA

WEEK 7

Molex Connectors
Lightning Connector
Optical Fiber Cable
Optical Connectors
Coaxial Copper Cables
Twisted Pair Cable
Cable Performance
Wiring Schemes
Specialty Cable
Punchdown Block and Patch Panel
Validation

Random Access Memory (RAM)

The Function of RAM
Types of Memory Chips
Error Correcting Code (ECC)
Types of Memory Modules
DDR Performance Measurements
Motherboard Requirements for Memory
Channel Configuration
Installing RAM
Other Memory Types
Validation

Storage Devices: HDD and SSD

Storage vs. RAM
HDD Physical Characteristics
HDD Functional Characteristics

WEEK 8

SSD Characteristics and Usage

M.2 and NVME SSD

Validation

Storage: Optical, Removable, Attachments, RAID

Optical Storage

Removable Storage

Removable Storage

RAID-0

RAID-1

RAID-5

RAID-6

RAID-10

Serial Attached SCSI (SAS)

Validation

CPU and Motherboard Compatibility

CPU x86 and x64

CPU Performance Factors

RISC and ARM Processors

CPU and Motherboard Compatibility

CPU Installation

Validation

Motherboard, BIOS/UEFI

What is the Motherboard?

Motherboard Form Factors

WEEK 9

Introducing the BIOS

UEFI and Basic Settings

Advanced BIOS/UEFI Settings

Validation

Motherboard Encryption and Expansion

Encryption with TPM and HSM

Chipsets

Expansion Slots

PCI and PCIe

PCIe and Bifurcation

Validation

Motherboard Connectors, AC/DC Power and PSUs

Motherboard Connectors

AC and DC Power

Power Units of Measure

Power Supply Form Factors

Power Supply Functions, Rules, and Connections

Sizing a Power Supply

Validation

External Power Options, Cooling, and PC Build

External Power Options

Backup Generators

WEEK 10

Cooling

Summary of PC Build

Validation

Printer Types, Unboxing, Testing

Printer Types

Printer Types

Setup Considerations

Unboxing a Printer

Perform a Function Test

Validation

Configure and Secure Printers

Printer Panel Management

Windows and Vendor Printer Management

Manage Printer via Web Page

Printer Security

Validation

Sharing and Maintaining Printers

Share a Printer

Laser Printer Functional Process

Laser Printer Consumables

Choose the Right Paper

WEEK 11

Inkjet Characteristics and Types

Inkjet Printing Process and Maintenance

Thermal and Impact Consumables

Validation

Explain Virtualization Concepts

Introduction to Virtualization Concepts

Virtualization Overview

Purpose of Virtual Machines

Virtualization Requirements

Desktop Virtualization

Containers

Hypervisors

Reinforce Your Learning

Summarize Cloud Computing Concepts

Intro to Cloud Computing Concepts

Cloud Computing Overview

Common Cloud Deployment Models

Common Cloud Service Models

Cloud Characteristics

Cloud Services Example

Reinforce

Troubleshooting Methodology

Troubleshooting Soft Skills

Identify the Problem

Theory of Probable Cause

Test the Theory

Establish a Plan of Action

Document Findings Actions Outcomes

What if You Can't Fix It?

Validation

WEEK 12

Troubleshooting Printers and Mobile Devices

Troubleshooting Printers

Troubleshooting Printers

Troubleshoot Mobile

Troubleshoot Mobile

Troubleshoot Mobile

Validation

Troubleshoot Video, Display, and Projectors

Troubleshoot Display Data Source and Cables

Troubleshoot Display Unit and GPU

Troubleshoot Burn in, Stuck and Dead Pixels

Troubleshoot Flickering, Color, and Brightness

Troubleshoot Projectors

Validation

Troubleshoot MOBO, RAM, CPU, Power

Troubleshooting the MOBO

Troubleshoot CPU

Troubleshoot RAM

Troubleshoot Power

Validation

Troubleshoot Drive and RAID Issues

Drive Prevention, Maintenance, and Lifecycle

WEEK 13

HDD Issues

HDD Issues

HDD Issues

RAID Demo

Validation