

# uCertify

## Course Outline

### CompTIA A 220-901 Cert Guide



20 May 2024

1. Course Objective
2. Pre-Assessment
3. Exercises, Quizzes, Flashcards & Glossary  
Number of Questions
4. Expert Instructor-Led Training
5. ADA Compliant & JAWS Compatible Platform
6. State of the Art Educator Tools
7. Award Winning Learning Platform (LMS)
8. Chapter & Lessons

Syllabus

Chapter 1: Introduction

Chapter 2: Technician Essentials and Computer/Device Anatomy

Chapter 3: Configure and Use BIOS/UEFI Tools

Chapter 4: Motherboard Components

Chapter 5: RAM Types and Features

Chapter 6: PC Expansion Cards

Chapter 7: Storage Devices

Chapter 8: CPUs

Chapter 9: Ports and Interfaces

Chapter 10: Designing and Building Custom PC Configurations

Chapter 11: Using, Maintaining, and Installing Printers and Multifunction Devices

Chapter 12: Networking

Chapter 13: Mobile Devices

Chapter 14: Hardware and Network Troubleshooting

Chapter 15: Appendix A: CompTIA A+ Objectives

Videos and How To

9. Practice Test

Here's what you get

## Features

### 10. Performance Based labs

#### Lab Tasks

Here's what you get

### 11. Post-Assessment

## 1. Course Objective

Gain hands-on expertise for the CompTIA A+ 220-901 certification exam with the CompTIA A+ 220-901 course and performance-based labs. Performance-based labs simulate real-world, hardware, software & command line interface environments and can be mapped to any text-book, course & training. The cert guide focuses on all the objectives covered in the 220-901 exam and provides hands-on expertise in topics such as motherboards, RAM types, CPUs, networking, storage devices and many more.

## 2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

## 3. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.



## 4. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

**181**

**QUIZ**

## 5. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

**633**

**FLASHCARDS**

## 6. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

**633**

**GLOSSARY OF  
TERMS**

## 7. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

## 8. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

## 9. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

## 10. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been

recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**

1. Best Postsecondary Learning Solution

- **2015**

1. Best Education Solution
2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**

1. Best Virtual Learning Solution
2. Best Education Cloud-based Solution
3. Best College and Career Readiness Solution
4. Best Corporate / Workforce Learning Solution
5. Best Postsecondary Learning Content Solution
6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

- **2017**

1. Best Overall Education Solution
2. Best Student Assessment Solution
3. Best Corporate/Workforce Learning Solution
4. Best Higher Education LMS or Learning Platform

- **2018**

1. Best Higher Education LMS or Learning Platform

2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**

1. Best Virtual Learning Solution
2. Best Content Authoring Development or Curation Solution
3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

## 11. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

## Syllabus

### Chapter 1: Introduction

- Goals and Methods
- What's New?
- Who Should Read This Book?



- Strategies for Exam Preparation

## Chapter 2: Technician Essentials and Computer/Device Anatomy

- The Essential Parts of Any Computer or Mobile Device
- Hardware, Software, and Firmware
- The CompTIA Six-Step Troubleshooting Theory
- Technician Tools and Equipment
- Important Websites
- Lesson Summary

## Chapter 3: Configure and Use BIOS/UEFI Tools

- BIOS/UEFI Configuration
- Flash Upgrade BIOS
- Using BIOS/UEFI Diagnostics
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations to Hands-On Labs

## Chapter 4: Motherboard Components

- ATX, ITX, and Smaller Sizes
- Expansion Slot Types
- RAM Sockets
- CPU Sockets
- Chipsets
- CMOS Battery
- Power Connectors
- Fan Connectors
- Front and Top Panel Connectors
- Bus Speeds
- Installing Motherboards
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations to Hands-On Labs

## Chapter 5: RAM Types and Features

- Memory Upgrade Considerations
- RAM Types
- SO-DIMM vs DIMM
- RAM Configurations
- Single-Sided vs Double-Sided
- RAM Compatibility
- Installing Memory
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Lab
- Answers and Explanations to Hands-On Labs

## Chapter 6: PC Expansion Cards

- Expansion Card and Slot Overview
- Installing Sound Cards
- Installing Video Cards
- Installing Network Cards
- Installing USB Cards

- Installing FireWire Cards
- Installing Thunderbolt Cards
- Installing Storage Cards
- Installing Modem Cards
- Installing Wireless/Cellular Cards
- Installing TV Tuner Cards
- Installing Video Capture Cards
- Installing Riser Cards
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations to Hands-On Labs

## Chapter 7: Storage Devices

- Optical Drive Features and Capacities
- Magnetic Hard Disk Drives
- Flash Drives
- Solid State Drives

- Hot-Swappable Drives
- RAID Types
- Tape Drive
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations to Hands-On Labs

## Chapter 8: CPUs

- Processor Characteristics
- Socket Types
- Cooling
- CPU Installation
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations for Hands-On Labs

## Chapter 9: Ports and Interfaces

- Rear Panel Port Clusters
- USB
- FireWire (IEEE 1394)
- SATA and eSATA
- Thunderbolt
- Video
- Audio
- PS/2
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations for Hands-On Labs

## Chapter 10: Designing and Building Custom PC Configurations

- Custom PC Configurations
- Evaluating Onboard Components
- Installing Power Supplies
- Installing and Configuring Input, Output, and I/O Devices

- Display Types
- Video Display Settings and Features
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations for Hands-On Labs

## Chapter 11: Using, Maintaining, and Installing Printers and Multifunction Devices

- Laser Printers
- Inkjet Printers
- Thermal Printers
- Impact Printers
- Virtual Printers
- Installing Your Printer or Multifunction Device
- Configuring Your Printer or Multifunction Device
- Device Sharing Options
- Wireless Device Sharing Options
- Cloud and Remote Printing

- Configuring Your Operating System to Share a Printer or Device
- Maintaining Data Privacy
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations for Hands-On Labs

## Chapter 12: Networking

- Network Cable and Connector Types and Characteristics
- TCP/IP
- TCP and UDP Ports, Protocols, and Purposes
- WiFi (Wi-Fi) Network and Encryption Standards
- Configure SOHO Wired or Wireless Router
- Internet Connection Types
- Network Types
- Network Architecture Devices
- Using Networking Tools
- Lesson Summary



- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations for Hands-On Labs

## Chapter 13: Mobile Devices

- Install and Configure Laptop Hardware and Components
- Replace Laptop Components
- Laptop Display Components
- Using Laptop Features
- Characteristics of Other Mobile Devices
- Accessories and Ports Used by Other Mobile Devices
- Lesson Summary
- Review All the Key Topics
- Complete Hands-On Labs
- Answers and Explanations to Hands-On Labs

## Chapter 14: Hardware and Network Troubleshooting

- Troubleshooting Motherboard, RAM, CPU, and Power Issues

- Recommended Tools
- Troubleshooting Hard Drives and RAID Arrays
- Troubleshooting Video, Projector, and Display Issues
- Network Troubleshooting
- Overview of Network Command-Line Tools
- Mobile Device Troubleshooting
- Mobile Device Disassembly Process
- Printer Troubleshooting
- Lesson Summary
- Review All the Key Topics
- Complete Hands-on Labs
- Answers and Explanations to Hands-On Labs

## Chapter 15: Appendix A: CompTIA A+ Objectives

- 220-901 Domain 1.0 Hardware
- 220-901 Domain 2.0 Networking
- 220-901 Domain 3.0 Mobile Devices
- 220-901 Domain 4.0 Hardware and Network Troubleshooting

- 220-902 Domain 1.0 Windows Operating Systems
- 220-902 Domain 2.0 Other Operating Systems and Technologies
- 220-902 Domain 3.0 Security
- 220-902 Domain 4.0 Software Troubleshooting
- 220-902 Domain 5.0 Operational Procedures

## Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

**49**

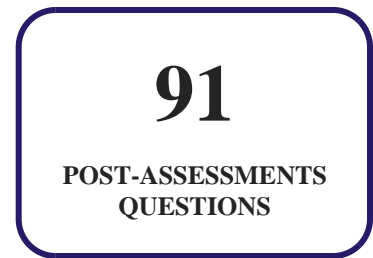
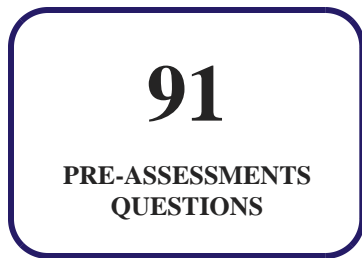
VIDEOS

**09**

HOURS

## 12. Practice Test

**Here's what you get**



## Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

### Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

## 13. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task
- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

## Lab Tasks

- Identifying smartphone features
- Identifying features of a laptop and tablet
- Replacing the Battery of a Smartphone and Inserting a Memory Card
- Identifying computer parts
- Identifying steps for troubleshooting theory
- Identifying computer troubleshooting steps
- Identifying network cabling tools
- Accessing the BIOS Setup Program
- Enabling Hardware Virtualization
- Understanding the BIOS security options
- Setting up a boot device priority
- Examining the hard drive
- Identifying computer components
- Installing Motherboard Components
- Providing Cooling and Ventilation to a Motherboard
- Identifying motherboard slots
- Identifying a PCI-Bus Slot
- Identifying a CPU Socket
- Installing a PCI Sound Card
- Removing a damaged network card
- Identifying components of a motherboard chipset
- Identifying Types of RAM
- Identifying RAM configuration
- Installing Memory Modules
- Installing Expansion Cards on a Motherboard
- Installing a USB 3.0 PCI Express Card (2.0 x4)
- Installing Firewire Cards
- Changing the CMOS battery
- Clearing the CMOS settings
- Installing an Optical Drive and a PCI Sound Card
- Configuring sound card with Windows

- Inserting components of a computer
- Adding hardware to a Windows PC
- Identifying blu-ray types
- Copying Files to a Disc Using File Explorer
- Inserting a CD on a Laptop
- Enabling external USB ports
- Removing a Pen Drive from a Computer
- Identifying RAID level characteristics
- Identifying RAID BIOS configuration settings
- Identifying the CPU package types
- Identifying processor socket
- Identifying processor families
- Identifying computer cooling systems
- Installing a processor
- Understanding CPU removal procedure
- Identifying Video Ports and Connectors
- Identifying additional ports and connectors
- Identifying video card ports
- Identifying desktop PC ports
- Identifying I/O ports of a motherboard
- Identifying input and output devices
- Troubleshooting a USB printer
- Connecting a USB Printer to a Computer
- Understanding USB versions
- Connecting a keyboard and mouse to a computer
- Connecting the Motherboard to the Internal Hard Drive
- Supplying Power to a SATA Drive
- Comparing desktop and laptop components
- Identifying printer connectors
- Identifying adapters
- Identifying DisplayPort versions
- Modifying touchpad settings
- Connecting a computer to monitor
- Identifying sound card ports
- Identifying PS/2 port

- Identifying sound ports
- Connecting a headset to a computer
- Configuring Windows 7 for media streaming
- Replacing the Power Supply
- Installing SMPS and Connecting it to the Motherboard
- Identifying computer power supply connectors
- Assembling Computer Components
- Connecting Speakers to a Computer
- Connecting a digital camera to a computer
- Adding hardware to a Windows PC
- Preparing for a video conference on Skype
- Disabling a touchpad
- Identifying video features
- Understanding the electrophotographic print process
- Inserting Ink Cartridges into a Printer
- Identifying the steps for using an inkjet cleaning solution
- Configuring printer memory
- Calibrating the printing device
- Installing a printer
- Identifying network connectors
- Identifying types of a cable
- Identifying components of a coaxial cable
- Connecting a workstation to the LAN and configuring IPv4 properties
- Identifying IP address class values
- Describing 802.11 networking standards
- Describing 802.11 modulation techniques
- Configuring Internet settings on a router
- Understanding QoS levels
- Configuring the TCP/IP values
- Connecting to a wireless network
- Connecting a router to the laptop
- Connecting Systems to the Internet Through a Firewall Router
- Connecting the Cable Modem to Access Internet
- Identifying network types
- Identifying key steps to plan a network

- Installing Laptop Components
- Identifying a port
- Identifying mobile power/sync cables
- Identifying USB cables
- Retrieving and emptying the recycle bin
- Using the check disk utility
- Running Disk Defragmenter in Windows 7
- Troubleshooting the Wi-Fi connection issues
- Installing a NIC
- Troubleshooting limited network
- Analyzing network paths with tracert
- Analyzing domain names with nslookup
- Renewing an IP address
- Viewing information related to the network adapter
- Analyzing the TCP/IP configuration with netstat
- Running different parameters of the net share command
- Adding and removing an IPv6 address
- Identifying symptoms of problems with the mobile OS
- Describing error codes

## Here's what you get

**120**

PERFORMANCE BASED  
LAB

**170**

VIDEO TUTORIALS

**02:35**

HOURS

## 14. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.



## GET IN TOUCH:



3187 Independence Drive  
Livermore, CA 94551,  
United States



+1-415-763-6300



support@ucertify.com



www.ucertify.com