

Szkolenie: CompTIA  
CompTIA A+ Prep Course

## DOSTĘPNE TERMINY

2021-04-26 | 5 dni | Virtual Classroom

2021-06-14 | 5 dni | Wirtualna sala

## Cel szkolenia:

**CompTIA A+** is the preferred qualifying credential for technical support and IT operational roles. A+ certified professionals identify issues and problem-solve more effectively than those without certification. In order to receive the CompTIA A+ certification, candidates must pass two exams: Core 1 220-1001 & Core 2 220-1002. Successful candidates will have the knowledge required to:

- Assemble components based on customer requirements
- Install, configure and maintain devices, PCs and software for end users
- Understand the basics of networking and security, including forensics
- Apply troubleshooting skills to diagnose, resolve and document common hardware and software issues
- Provide appropriate customer support
- Understand the basics of virtualization, desktop imaging and deployment

CompTIA CompTIA A+ Prep Course prepares you for the A+ certification exams based on the 2019 objectives exams Core 1 220-1001 & Core 2 220-1002.

*Each participant in an authorized training CompTIA A+ Prep Course held in Compendium CE will receive a free 220-1001 & 220-1002 CompTIA A+ Certification Exam vouchers.*

## Who Should Attend:

- Service Desk Analyst
- Help Desk Tech
- Technical Support Specialist
- Field Service Technician
- Associate Network Engineer
- Data Support Technician
- Desktop Support Administrator
- End User Computing Technician

- Help Desk Technician
- System Support Specialist

## Plan szkolenia:

- Mobile Devices
  - Given a scenario, install and configure laptop hardware and components.
    - Hardware/device replacement
    - Keyboard
    - Hard drive
    - Memory
    - Smart card reader
    - Optical drive
    - Wireless card/Bluetooth module
    - Cellular card
    - Video card
    - Mini PCIe
    - Screen
    - DC jack
    - Battery
    - Touchpad
    - Plastics/frames
    - Speaker
    - System board
    - CPU
  - Given a scenario, install components within the display of a laptop.
    - WiFi antenna connector/placement
    - Webcam
    - Microphone
    - Inverter
    - Digitizer/touchscreen
  - Given a scenario, use appropriate laptop features.
    - Special function keys
    - Docking station
    - Port replicator
    - Physical laptop lock and cable lock
    - Rotating/removable screens

- Compare and contrast characteristics of various types of other mobile devices.
  - Tablets
  - Smartphones
  - Wearable technology devices
  - E-readers
  - GPS
- Given a scenario, connect and configure accessories and ports of other mobile devices.
  - Connection types
  - Wireless
  - Accessories
- Given a scenario, configure basic mobile device network connectivity and application support.
  - Wireless/cellular data network (enable/disable)
  - Bluetooth
  - Corporate and ISP email configuration
  - Integrated commercial provider email configuration
  - PRI updates/PRL updates/baseband updates
  - Radio firmware
  - IMEI vs. IMSI
  - VPN
- Given a scenario, use methods to perform mobile device synchronization.
  - Synchronization methods
  - Types of data to synchronize
  - Mutual authentication for multiple services (SSO)
  - Software requirements to install the application on the PC
  - Connection types to enable synchronization
- Networking
  - Compare and contrast TCP and UDP ports, protocols, and their purposes.
    - Ports and protocols
    - TCP vs. UDP
  - Compare and contrast common networking hardware devices.
    - Routers
    - Switches
    - Access points
    - Cloud-based network controller
    - Firewall
    - Network interface card

- Repeater
- Hub
- Cable/DSL modem
- Bridge
- Patch panel
- Power over Ethernet (PoE)
- Ethernet over Power
- Given a scenario, install and configure a basic wired/wireless SOHO network.
  - Router/switch functionality
  - Access point settings
  - IP addressing
  - NIC configuration
  - End-user device configuration
  - IoT device configuration
  - Cable/DSL modem configuration
  - Firewall settings
  - QoS
  - Wireless settings
- Compare and contrast wireless networking protocols.
  - 802.11a
  - 802.11b
  - 802.11g
  - 802.11n
  - 802.11ac
  - Frequencies
  - Channels
  - Bluetooth
  - NFC
  - RFID
  - Zigbee
  - Z-Wave
  - 3G
  - 4G
  - 5G
  - LTE
- Summarize the properties and purposes of services provided by networked hosts.

- Server roles
- Internet appliance
- Legacy/embedded systems
- Explain common network configuration concepts.
  - IP addressing
  - DNS
  - DHCP
  - IPv4 vs. IPv6
  - Subnet mask
  - Gateway
  - VPN
  - VLAN
  - NAT
- Compare and contrast Internet connection types, network types, and their features.
  - Internet connection types
  - Network types
- Given a scenario, use appropriate networking tools.
  - Crimper
  - Cable stripper
  - Multimeter
  - Tone generator and probe
  - Cable tester
  - Loopback plug
  - Punchdown tool
  - WiFi analyzer
- Hardware
  - Explain basic cable types, features, and their purposes.
    - Network cables
    - Video cables
    - Multipurpose cables
    - Peripheral cables
    - Hard drive cables
    - Adapters
  - Identify common connector types.
    - RJ-11
    - RJ-45

- RS-232
- BNC
- RG-59
- RG-6
- USB
- Micro-USB
- Mini-USB
- USB-C
- DB-9
- Lightning
- SCSI
- eSATA
- Molex
- Given a scenario, install RAM types.
  - RAM types
  - Single channel
  - Dual channel
  - Triple channel
  - Error correcting
  - Parity vs. non-parity
- Given a scenario, select, install and configure storage devices.
  - Optical drives
  - Solid-state drives
  - Magnetic hard drives
  - Hybrid drives
  - Flash
  - Configurations
- Given a scenario, install and configure motherboards, CPUs, and add-on cards.
  - Motherboard form factor
  - Motherboard connectors types
  - BIOS/UEFI settings
  - CMOS battery
  - CPU features
  - Compatibility
  - Cooling mechanism
  - Expansion cards

- Explain the purposes and uses of various peripheral types.
  - Printer
  - ADF/flatbed scanner
  - Barcode scanner/QR scanner
  - Monitors
  - VR headset
  - Optical drive types
  - Mouse
  - Keyboard
  - Touchpad
  - Signature pad
  - Game controllers
  - Camera/webcam
  - Microphone
  - Speakers
  - Headset
  - Projector
  - External storage drives
  - KVM
  - Magnetic reader/chip reader
  - NFC/tap pay device
  - Smart card reader
- Summarize power supply types and features.
  - Input 115V vs. 220V
  - Output 5V vs. 12V
  - 24-pin motherboard adapter
  - Wattage rating
  - Number of devices/types of devices to be powered
- Given a scenario, select and configure appropriate components for a custom PC configuration to meet customer specifications or needs.
  - Graphic/CAD/CAM design workstation
  - Audio/video editing workstation
  - Virtualization workstation
  - Gaming PC
  - Network attached storage device
  - Standard thick client
  - Thin client

- Given a scenario, install and configure common devices.
  - Desktop
  - Laptop/common mobile devices
- Given a scenario, configure SOHO multifunction devices/printers and settings.
  - Use appropriate drivers for a given operating system
  - Device sharing
  - Public/shared devices
- Given a scenario, install and maintain various print technologies.
  - Laser
  - Inkjet
  - Thermal
  - Impact
  - Virtual
  - 3D printers
- Virtualization and Cloud Computing
  - Compare and contrast cloud computing concepts.
    - Common cloud models
    - Shared resources
    - Rapid elasticity
    - On-demand
    - Resource pooling
    - Measured service
    - Metered
    - Off-site email applications
    - Cloud file storage services
    - Virtual application streaming/cloud-based applications
    - Virtual desktop
  - Given a scenario, set up and configure client-side virtualization.
    - Purpose of virtual machines
    - Resource requirements
    - Emulator requirements
    - Security requirements
    - Network requirements
    - Hypervisor
- Hardware and Network Troubleshooting
  - Given a scenario, use the best practice methodology to resolve problems.



- Always consider corporate policies, procedures, and impacts before implementing changes
- Given a scenario, troubleshoot problems related to motherboards, RAM, CPUs, and power.
- Given a scenario, troubleshoot hard drives and RAID arrays.
- Given a scenario, troubleshoot video, projector, and display issues.
- Given a scenario, troubleshoot common mobile device issues while adhering to the appropriate procedures.
- Given a scenario, troubleshoot printers.
- Given a scenario, troubleshoot common wired and wireless network problems.
- Operating Systems
  - Compare and contrast common operating system types and their purposes.
    - 32-bit vs. 64-bit
    - Workstation operating systems
    - Cell phone/tablet operating systems
    - Vendor-specific limitations
    - Compatibility concerns between operating systems
  - Compare and contrast features of Microsoft Windows versions.
    - Windows 7
    - Windows 8
    - Windows 8.1
    - Windows 10
    - Corporate vs. personal needs
    - Desktop styles/user interface
  - Summarize general OS installation considerations and upgrade methods.
    - Boot methods
    - Type of installations
    - Partitioning
    - File system types/formatting
    - Load alternate third-party drivers when necessary
    - Workgroup vs. Domain setup
    - Time/date/region/language settings
    - Driver installation, software, and Windows updates
    - Factory recovery partition
    - Properly formatted boot drive with the correct partitions/format
    - Prerequisites/hardware compatibility
    - Application compatibility
    - OS compatibility/upgrade path

- Given a scenario, use appropriate Microsoft command line tools.
  - Navigation
  - ipconfig
  - ping
  - tracert
  - netstat
  - nslookup
  - shutdown
  - dism
  - sfc
  - chkdsk
  - diskpart
  - taskkill
  - gpupdate
  - gpresult
  - format
  - copy
  - xcopy
  - robocopy
  - net use
  - net user
  - [command name] /?
  - Commands available with standard privileges vs. administrative privileges
- Given a scenario, use Microsoft operating system features and tools.
  - Administrative
  - MSConfig
  - Task Manager
  - Disk Management
  - System utilities
- Given a scenario, use Microsoft Windows Control Panel utilities.
  - Internet Options
  - Display/Display Settings
  - User Accounts
  - Folder Options
  - System
  - Windows Firewall

- Power Options
- Credential Manager
- Programs and features
- HomeGroup
- Devices and Printers
- Sound
- Troubleshooting
- Network and Sharing Center
- Device Manager
- BitLocker
- Sync Center
- Summarize application installation and configuration concepts.
  - System requirements
  - OS requirements
  - Methods of installation and deployment
  - Local user permissions
  - Security considerations
- Given a scenario, configure Microsoft Windows networking on a client/desktop.
  - HomeGroup vs. Workgroup
  - Domain setup
  - Network shares/administrative shares/mapping drives
  - Printer sharing vs. network printer mapping
  - Establish networking connections
  - Proxy settings
  - Remote Desktop Connection
  - Remote Assistance
  - Home vs. Work vs. Public network settings
  - Firewall settings
  - Configuring an alternative IP address in Windows
  - Network card properties
- Given a scenario, use features and tools of the Mac OS and Linux client/desktop operating systems.
  - Best practices
  - Tools
  - Features
  - Basic Linux commands

- Security
  - Summarize the importance of physical security measures.
    - Mantrap
    - Badge reader
    - Smart card
    - Security guard
    - Door lock
    - Biometric locks
    - Hardware tokens
    - Cable locks
    - Server locks
    - USB locks
    - Privacy screen
    - Key fobs
    - Entry control roster
  - Explain logical security concepts.
    - Active Directory
    - Software tokens
    - MDM policies
    - Port security
    - MAC address filtering
    - Certificates
    - Antivirus/Anti-malware
    - Firewalls
    - User authentication/strong passwords
    - Multifactor authentication
    - Directory permissions
    - VPN
    - DLP
    - Access control lists
    - Smart card
    - Email filtering
    - Trusted/untrusted software sources
    - Principle of least privilege
  - Compare and contrast wireless security protocols and authentication methods.
    - Protocols and encryption

- Authentication
- Given a scenario, detect, remove, and prevent malware using appropriate tools and methods.
  - Malware
  - Tools and methods
- Compare and contrast social engineering, threats, and vulnerabilities.
  - Social engineering
  - DDoS
  - DoS
  - Zero-day
  - Man-in-the-middle
  - Brute force
  - Dictionary
  - Rainbow table
  - Spoofing
  - Non-compliant systems
  - Zombie
- Compare and contrast the differences of basic Microsoft Windows OS security settings.
  - User and groups
  - NTFS vs. share permissions
  - Shared files and folders
  - System files and folders
  - User authentication
  - Run as administrator vs. standard user
  - BitLocker
  - BitLocker To Go
  - EFS
- Given a scenario, implement security best practices to secure a workstation.
  - Password best practices
  - Account management
  - Disable autorun
  - Data encryption
  - Patch/update management
- Given a scenario, implement methods for securing mobile devices.
  - Screen locks
  - Remote wipes

- Locator applications
- Remote backup applications
- Failed login attempts restrictions
- Antivirus/Anti-malware
- Patching/OS updates
- Biometric authentication
- Full device encryption
- Multifactor authentication
- Authenticator applications
- Trusted sources vs. untrusted sources
- Firewalls
- Policies and procedures
- Given a scenario, implement appropriate data destruction and disposal methods.
  - Physical destruction
  - Recycling or repurposing best practices
- Given a scenario, configure security on SOHO wireless and wired networks.
  - Wireless-specific
  - Change default usernames and passwords
  - Enable MAC filtering
  - Assign static IP addresses
  - Firewall settings
  - Port forwarding/mapping
  - Disabling ports
  - Content filtering/parental controls
  - Update firmware
  - Physical security
- Software Troubleshooting
  - Given a scenario, troubleshoot Microsoft Windows OS problems.
  - Given a scenario, troubleshoot and resolve PC security issues.
  - Given a scenario, use best practice procedures for malware removal.
    - Identify and research malware symptoms.
    - Quarantine the infected systems.
    - Disable System Restore (in Windows).
    - Remediate the infected systems.
    - Schedule scans and run updates.
    - Enable System Restore and create a restore point (in Windows).

- Educate the end user.
- Given a scenario, troubleshoot mobile OS and application issues.
- Given a scenario, troubleshoot mobile OS and application security issues.
- Operational Procedures
  - Compare and contrast best practices associated with types of documentation.
    - Network topology diagrams
    - Knowledge base/articles
    - Incident documentation
    - Regulatory and compliance policy
    - Acceptable use policy
    - Password policy
    - Inventory management
  - Given a scenario, implement basic change management best practices.
    - Documented business processes
    - Purpose of the change
    - Scope the change
    - Risk analysis
    - Plan for change
    - End-user acceptance
    - Change board
    - Backout plan
    - Document changes
  - Given a scenario, implement basic disaster prevention and recovery methods.
    - Backup and recovery
    - Backup testing
    - UPS
    - Surge protector
    - Cloud storage vs. local storage backups
    - Account recovery options
  - Explain common safety procedures.
    - Equipment grounding
    - Proper component handling and storage
    - Toxic waste handling
    - Personal safety
    - Compliance with government regulations
  - Explain environmental impacts and appropriate controls.

- MSDS documentation for handling and disposal
- Temperature, humidity level awareness, and proper ventilation
- Power surges, brownouts, and blackouts
- Protection from airborne particles
- Dust and debris
- Compliance to government regulations
- Explain the processes for addressing prohibited content/activity, and privacy, licensing, and policy concepts.
  - Incident response
  - Licensing/DRM/EULA
  - Regulated data
  - Follow all policies and security best practices
- Given a scenario, use proper communication techniques and professionalism.
  - Use proper language and avoid jargon, acronyms, and slang, when applicable
  - Maintain a positive attitude/project confidence
  - Actively listen (taking notes) and avoid interrupting the customer
  - Be culturally sensitive
  - Be on time (if late, contact the customer)
  - Avoid distractions
  - Dealing with difficult customers or situations
  - Set and meet expectations/timeline and communicate status with the customer
  - Deal appropriately with customers' confidential and private materials
- Identify the basics of scripting.
  - Script file types
  - Environment variables
  - Comment syntax
  - Basic script constructs
  - Basic data types
- Given a scenario, use remote access technologies.
  - RDP
  - Telnet
  - SSH
  - Third-party tools
  - Security considerations of each access method



## Wymagania:

- Basic knowledge of computing concepts
- End user skills with Windows operation system

## Poziom trudności



## Certyfikaty:

The participants will obtain certificates signed by CompTIA (course completion). This course will help prepare you for the **CompTIA A+ certification exams**, which is available through the Pearson VUE test centers.

Each participant in an authorized training CompTIA A+ Prep Course held in Compendium CE will receive a free **Core 1 220-1001** & **Core 2 220-1002** CompTIA A+ Certification Exam vouchers.

## Prowadzący:

Autoryzowany trener CompTIA.

## Informacje dodatkowe:

CompTIA A+ is accredited by ANSI as meeting the ISO/IEC 17024 standard and is approved by U.S. Department of Defense (DoD) to fulfill Directive 8570.01-M requirements.