

A+ Certification

Exam – A+ Essentials

Exam – A+ 220-602 -- IT Technician

Five Days – Instructor-led

Prerequisites: Basic knowledge and understanding of Personal Computers.

Overview: This course is designed for the new computer professional who has basic knowledge and experience with PCs and who wants to pursue a career as a computer service technician.

A+ Certification: Essentials

A+ Certification Essentials will prepare students for the CompTIA A+ Essentials certification exam (2006 Objectives). Students will obtain the skills and knowledge necessary to install, build, upgrade, repair, configure, troubleshoot, and performing preventative maintenance on personal computer hardware and operating systems.

Objectives

- Installation
- PC building
- System upgrades
- Repair
- System configuration
- Troubleshooting
- Problem diagnosis
- Preventative maintenance

Getting started with PC hardware support

Computer components overview
Hardware, software, and firmware
Troubleshooting models

Operating systems

Operating system fundamentals
Directory and file management

Electricity and power systems

Electricity and electronics
Static electricity
Power supplies
Power supply troubleshooting

CPUs and motherboards

Central processing units (CPUs)
Packaging, slots, and cooling techniques
Motherboards and system cases
Motherboard troubleshooting

Basic Input/Output System

BIOS and CMOS
The POST process
Firmware updates
BIOS and POST troubleshooting

Memory systems

Memory
Memory packaging
Memory troubleshooting

Bus structures

Buses
Host system interaction
The PCI bus
Video buses

Expansion cards

Drive adapters
Video cards
Sound cards
Internal modems
Expansion card troubleshooting

Ports, connectors, and cables

Serial and parallel ports, cables, and connectors
Keyboards, mice, and pointing devices
USB ports, cables, and connectors
FireWire ports, cables, and connectors
Infrared and Bluetooth wireless ports
Multimedia ports, cables, and connectors
Port, cable, and connector troubleshooting



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Data storage devices

- Hard drives
- Optical drives
- Removable storage devices
- Storage device troubleshooting

Video and multimedia input/output devices

- Cathode ray terminals
- LCDs and other video technologies
- Sound input and output devices
- Scanners and cameras

Printers

- Dot matrix printers
- Inkjet and related printer technologies
- Laser printers
- Other types of printers

Portable computers and devices

- Notebook computers
- Handheld computers

Monitoring and management

- The Windows boot process
- System monitoring
- System troubleshooting
- System management

Connecting computers

- Networking concepts
- Wired network connections
- Wireless network connections
- Network architectures

Networking computers

- Network communications
- Addressing
- Internet connections
- Network installation
- Network troubleshooting

Security

- Operating system security
- Security hardware
- The human aspects of security

Safety

- Safety and hazards
- Safe work practices
- Disposing of computer equipment

Troubleshooting and maintaining a PC

- Tools and software
- Preventative hardware maintenance

Professionalism and communication

- Professionalism and customer satisfaction
- Problem and resolution tracking

Windows installation and upgrades

- Installation
- Upgrades

Appendix A: Certification exam objectives map

- Comprehensive exam objectives

Appendix B: CompTIA A+ acronyms

- Acronyms list

A+ Certification: IT Technician

A+ Certification IT Technician prepares students for the CompTIA A+ 220-602 certification exam (2006 Objectives). Students will learn how to support PC hardware in a business setting, including installation, troubleshooting, and component replacement. The target student for this course is responsible for maintaining PCs in their workplace, and has already completed the CompTIA A+ Certification: Essentials course (or has equivalent experience).

Electricity and power systems

- Electricity and static electricity
- Power supplies
- Power conditioning and management
- Power supply troubleshooting

CPUs and motherboards

- CPU and motherboard installation
- Motherboard troubleshooting

Memory systems

- RAM installation
- Memory troubleshooting

Expansion cards

- Host system interaction
- Expansion card installation
- Laptop expansion device installation
- Legacy device installation
- Expansion card troubleshooting

Data storage devices

- Hard drives
- Optical drives
- Removable storage devices
- Tape drives and backup systems
- Storage device troubleshooting

Ports, connectors, and cables

- Serial and parallel ports, cables, and connectors
- Keyboards and pointing devices
- USB ports, cables, and connectors
- FireWire ports, cables, and connectors
- Infrared and Bluetooth wireless ports
- Multimedia ports, cables, and connectors
- Port, cable, and connector troubleshooting

Printers and scanners

- Printing technologies
- Printers
- Scanners

Display devices

- Monitors
- Troubleshooting and maintaining display devices

Portable computers and devices

- Communication connections
- Component replacement
- Portable-computer power sources

Operating system management

- Managing directories and files
- System monitoring and management
- Event Viewer
- The Registry

OS maintenance and troubleshooting

- Operating system maintenance
- Operating system troubleshooting

Networking

- Networking configuration
- Resource sharing
- Internet connectivity
- Network protection
- Network troubleshooting

Security

- Operating system security
- Auditing and logging
- The human aspects of security

Maintaining the PC environment

- Safety and hazards
- Troubleshooting and maintaining PCs

Professionalism and communication

- Professionalism
- Customer satisfaction
- Problem and resolution tracking

Appendix A: Certification exam objectives map

- Comprehensive exam objectives

Appendix B: Binary, octal, and hexadecimal numbering

- Count like a computer

Appendix C: Reference tables

- Error messages and their meanings
- System resource tables
- Conventions and precautions

Appendix D: CompTIA A+ acronyms

- Acronyms list