

Course Content

Course Description:

In this course you will cover the skills and knowledge necessary to install, build, upgrade, repair, configure, troubleshoot, and perform preventative maintenance on personal computer hardware and operating systems. Students will obtain the skills and knowledge necessary to install, upgrade, repair, configure, troubleshoot, and perform preventive maintenance on personal computer hardware and operating systems. Course manual comes with CertBlaster exam prep software (download)..

Prerequisites:

End-user skills with Windows-bases personal computers, basic knowledge of computing concepts such as operating system, applications, file systems and the function of a computer network

Topics:

Troubleshooting Methodology

- Troubleshooting models
- CompTIA A+ Model
- CompTIA Network+ model
- Novell model
- ASID model
- Gathering information from users
- Customer's Environment
- Symptoms and error codes
- Circumstances in which problem occurred
- Identifying hardware or software problems
- Information Resources
- Problem and resolution tracking

Professionalism

- Providing professional services
- Consider total message you are sending
- Stay focused
- Consider the customer's competence
- Speak professionally
- Respect the customer
- Be culturally sensitive
- Match the delivery channel to the customer
- Effective Communication
- Verbal Communication
- Nonverbal communication
- Customer satisfaction
- Service-level agreements

Operating Systems

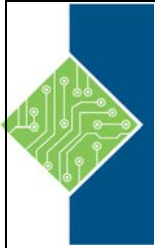
- Operating System Fundamentals
- Windows
- Macintosh (Mac)
- Linux
- Windows client operating systems
- Product life cycle
- Windows Vista editions
- Windows XP Editions
- Windows 2000 Professional
- Processors: 32-bit vs. 64-bit
- Operating System Interfaces
- System Tools
- Directory and File Management
- File attributes
- The command-line utility

File and folder permissions

- Sharing files with local users
- Permissions

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 Packages
- Memory Troubleshooting

Bus Structures

- Buses
- Host System Interaction
- The PCI Bus
- Video Buses

Expansion Cards

- Drive Adapters
- Video Cards
- Sound Cards
- Internal Modems
- Expansion and Troubleshooting

Peripheral Connection Types

- Serial and Parallel Ports, Cables, and Connectors
- PS/2 Connections
- USB Ports, Cables and Connectors
- FireWire Ports, Cables and Connectors
- Multimedia Ports, Cables and Connectors
- Wireless Network Connections
- Network Architecture

Data Storage Devices

- Hard Drives
- Optical Drives
- Removable Storage Devices

- Drive maintenance

Video and Multimedia Input/Output Devices

- Monitors
- Scanners and Cameras

Printers

- Printing technologies
- Printer installation and optimization

Portable Printers and Devices

- Notebook Computers
- Handheld Computers

Connecting Computers

- Networking Concepts
- Wired Network Connections
- Basic internetworking devices

Networking Computers

- Addressing
- Client configuration

Portable Computers

- Notebook Computers
- Notebook Issues

Monitoring and Management

- System Monitoring
- System Performance
- System Management

Operating system troubleshooting

- Windows startup
- System troubleshooting

Security

- Operating System Security
- Windows Encrypted File System
- Security Hardware
- The Human Aspects of Security

Windows Installation and Upgrades

- Windows Installation



- Upgrades

Safety and Maintenance

- Safety and Hazards
- Computer Maintenance
- Safe Work Practices
- Disposing of Computer Equipment

Troubleshooting hardware

- Backups
- Hardware problems

Appendix A: System cases

Appendix B: CompTIA A+ acronyms

Appendix C: Certification exam objectives map