

Course Outline

A+ (Hardware/SOFTWARE)

Duration: 5 days (30 hours)

Learning Objectives:

- Install and configure PC hardware and system components
- Understand the basics of peripherals and local area networking
- Support and troubleshoot PC hardware, software and peripherals
- Have a good understanding of customer service techniques
- Partition and format hard disk drives
- Install and configure Windows 98, Me, 2000 and XP
- Create, configure and use network and Internet connections
- Support and troubleshoot operating systems and applications

Target Audience:

This is the essential foundation course for newcomers to PC support and provides students with the necessary training to ensure proficiency in PC installation, troubleshooting skills, software installation and support skills

Prerequisites:

- Are you able to use a keyboard and mouse?
- Can you recognize the main components of a PC and different data media such as floppy disks, CD-ROM, etc?
- Do you understand DOS file naming conventions and directory structures?
- Are you familiar with Windows and Windows applications?
- Can you use Windows File Manager or Explorer to create directories and sub-directories; and move, copy or rename files and directories?
- Can you use the DOS DIR, COPY, REN, DEL, MD, CD and RD commands?
- Can you use the DOS editor to create text and batch files?

Topics Covered:

- Unit 1: Troubleshooting methodology
 - Topic A: Troubleshooting models
 - Topic B: Professionalism
- Unit 2: Operating systems
 - Topic A: Operating system fundamentals
 - Topic B: Directory management
 - Topic C: File management
 - Topic D: File and folder permissions
- Unit 3: Electricity and power supplies
 - Topic A: Electrical safety



- Topic B: Power supplies
- Topic C: Power supply troubleshooting
- Unit 4: CPUs and motherboards
 - Topic A: Central processing units
 - Topic B: Cooling techniques
 - Topic C: Motherboards
 - Topic D: Motherboard and CPU troubleshooting
- Unit 5: The Basic Input/Output System
 - Topic A: The BIOS and CMOS
 - Topic B: The POST and boot processes
- Unit 6: Memory systems
 - Topic A: Memory
 - Topic B: Memory packaging
 - Topic C: Memory installation
 - Topic D: Memory monitoring
 - Topic E: Memory troubleshooting
- Unit 7: Bus structures
 - Topic A: Buses
 - Topic B: The PCI bus
 - Topic C: Video buses
- Unit 8: Expansion cards
 - Topic A: Video cards
 - Topic B: Sound cards
 - Topic C: Internal modems
 - Topic D: Expansion card troubleshooting
- Unit 9: Peripheral connection types
 - Topic A: Serial and parallel connections
 - Topic B: PS/2 connections
 - Topic C: USB connections
 - Topic D: FireWire connections
 - Topic E: Multimedia connections
 - Topic F: Troubleshooting peripheral connections
- Unit 10: Data storage devices
 - Topic A: Drive adapters
 - Topic B: Hard drives
 - Topic C: Optical drives
 - Topic D: Removable storage devices
 - Topic E: Drive maintenance
 - Topic F: Storage device troubleshooting
- Unit 11: Video output and image input devices
 - Topic A: Monitors
 - Topic B: Scanners and cameras
- Unit 12: Printers
 - Topic A: Printing technologies
 - Topic B: Printer installation
 - Topic C: Printer optimization and maintenance

- Topic D: Printer troubleshooting
- Unit 13: Connecting computers
 - Topic A: Networking concepts
 - Topic B: Wired network connections
 - Topic C: Basic internetworking devices
- Unit 14: Networking computers
 - Topic A: Addressing
 - Topic B: Client configuration
- Unit 15: Network troubleshooting
 - Topic A: Troubleshooting basics
 - Topic B: Troubleshooting the network
- Unit 16: Portable computers
 - Topic A: Notebook computers
 - Topic B: Configuration
 - Topic C: Component replacement
 - Topic D: Notebook issues
- Unit 17: Windows management
 - Topic A: System management
 - Topic B: Task Scheduler
 - Topic C: Resource management
 - Topic D: Remote management
- Unit 18: Windows monitoring
 - Topic A: Monitoring
 - Topic B: System performance
 - Topic C: Backup and restore
- Unit 19: Operating system troubleshooting
 - Topic A: Windows startup
 - Topic B: System troubleshooting
- Unit 20: Security
 - Topic A: Operating system security
 - Topic B: Windows Encrypted File System
 - Topic C: Security hardware
 - Topic D: Common security threats
 - Topic E: The human aspects of security
- Unit 21: Windows installation and upgrades
 - Topic A: Windows installation
 - Topic B: Upgrades
- Unit 22: Safety and maintenance
 - Topic A: Safety and hazards
 - Topic B: Computer maintenance
 - Topic C: Safe work practices
 - Topic D: Disposing of computer equipment