

Course overview:

CompTIA A+ Certification Essentials Support Skills

(G166eng, ver116)



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Overview and objectives

This five-day practical “hands-on” course will teach support newcomers the fundamental principles of supporting desktop and portable computers and operating systems. On course completion, students will be able to:

- Identify types and characteristics of PC components, including motherboard, CPU, memory, and storage, input, and output devices.
- Install and configure peripheral devices.
- Identify types and characteristics of portable computers.
- Install and configure Microsoft Windows 2000 and Microsoft Windows XP.
- Perform basic PC maintenance and troubleshooting.
- Understand fundamental principles of securing IT systems and working safely.
- Communicate effectively with customers.
- Install and configure print and imaging devices.
- Understand fundamental principles of implementing LANs and internet access.



This course will prepare students for the 220-601 CompTIA A+ Certification Essentials exam for the objectives released in September 2006 and has been approved under the CompTIA Authorised Quality Curriculum program.

The course consists of two volumes, with a study volume, containing indexed notes and review questions, and a companion volume, containing exam objectives mapping, exam information, practical labs, answers to review questions, and a comprehensive glossary.

Who should attend?

This course is intended for students wishing to qualify with CompTIA A+ Certification for PC Support professionals. It is also suitable for students wanting to improve their skills in PC support and administration.

Students should have successfully completed PC Fundamentals or have basic experience of using a PC, Windows and browsing the Web. The following key skills are recommended:

- Use a keyboard and mouse.
 - Recognise the main components of a PC (such as case, monitor, mouse, and keyboard) and different data media such as floppy disks or CD-ROMs.
 - Start the computer and navigate the Desktop.
 - Use Windows Explorer to create directories and subdirectories; and move, copy, or rename files and directories.
 - Use Internet Explorer to view websites.
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Course contents

Module 1: PC Components

The Visible PC

- Introduction to the PC • Key Functions of a PC • The System Case • I/O Ports and Cables • PS2 Ports • Parallel Ports • Serial Ports • USB Ports • SCSI • IEEE 1394 (Firewire) • Modem and Network Ports • Audio Ports • Joystick/MIDI Ports • Adding and Removing Peripherals

Motherboards

- Motherboard Layout • System Clock • Bus Architecture • Motherboard Components • Expansion Bus and Adapter Cards • Motherboard Form Factors • Power Supply Unit (PSU)

Processors

- Central Processing Unit (CPU) • Processor Terminology • Multitasking, Multiprocessing, and Multithreading • Intel Processors • AMD Processors • Processor Sockets and Chipsets

Memory

- Memory Types • Memory Packaging • Memory Characteristics

Storage Devices

- Storage Devices • Hard Drives • Installing a Storage Device • Preparing a Hard Disk • Floppy Drives • Optical Disk Storage • Flash Memory • Tape Drives

Peripheral Devices

- PC Display Screens • Graphics Adapter • Installing a Graphics Adapter and Display • TV Tuners • Sound Cards • I/O and Communications Adapters

Module 2: Portable Computers

Portable Computers

- Portable and Desktop Computers • Notebooks • Tablet PC • Personal Digital Assistants (PDAs)

Module 3: Operating Systems

Features of Operating Systems

- Microsoft Operating Systems • Overview of Windows 2000 • Overview of Windows XP • Workgroups and Domains • UNIX and Linux • Apple Mac OS X • Novell NetWare

Installing and Upgrading Windows

- Overview of OS Installations • Preparing the Hard Disk • Domain or Workgroup Selection • Installation Methods • Setup Failure and Recovery • Upgrading the OS • Options for Deploying Windows

The Windows Boot Process

- Windows Boot Files • Initial Startup Process • The BOOT.INI File

Managing Windows

- Features of the Desktop • Windows Administrative Tools • Changing System Settings • Configuring Hardware • Optimising Windows Performance Options • Screen Savers and Power Management • Managing Software • Managing Services

Windows Storage Management

- Disk Management • Navigating Windows • Working with Folders • Working with Files • Searching For Files • The Recycle Bin • My Network Places

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Module 4: PC Support

Hardware Maintenance and Troubleshooting

- Troubleshooting Techniques • Troubleshooting Power Problems • Troubleshooting POST • Troubleshooting Internal Devices • Troubleshooting Peripherals • Notebook Troubleshooting • Preventative Maintenance

Troubleshooting the Operating System

- Error Categories • Advanced Startup Options • Diagnosing Problems • Troubleshooting Applications • Remote Features

Security

- Security Fundamentals • Windows Security Overview • Internet Security • Malware • Data Security

Safety and Environmental Issues

- Health and Safety • Static Electricity and ESD • Materials Handling • Storage of Components for Future Use • Disposal of Consumables and Computer Equipment

Professionalism and Communication

- Customer Service Skills • Basic Troubleshooting Approach • Giving Feedback • Communication with a Customer • Professionalism • Handling Customer Complaints

Module 5: Printers and Scanners

Printers and Scanners

- The Print Process • Installing and Configuring a Printer • Operating and Troubleshooting Printers • Scanners • Installing and Using a Scanner

Module 6: Networking

Network Concepts

- What is a Network? • Network Components • Network Topologies • The OSI Model • IEEE 802 Standards • Network Devices • Network Transport Protocols

Implementing a LAN

- Server and Peer-to-Peer Networks • Network Components • Implementing a LAN • Network Troubleshooting Basics

WAN and Internet Connectivity

- Wide Area Networks and the Internet • Accessing the Internet • Cellular Devices • Voice-over-IP

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