

Course Code/Title: A+ Comprehensive

Course Hours: 96 hours

Duration (wks): 6 weeks



CompTIA A+ Comprehensive Chapter Outline

1. The Path of the PC Tech

What is the CompTIA A+?
How to Pass the A+ Exams

2. Operational Procedures

Professionalism
Communication
Three Threat to Your PC
Physical Safety
Equipment Safety
Troubleshooting Theory

3. The Visible Computer

How Computers Work
Primary PC Components
External Connections
Inside the PC
Touring Windows Vista
Touring Windows 7 Part 1
Touring Windows 7 Part 2
Touring Windows 7 Part 3
Touring Windows 8
Touring Windows 10
Touring OS X
Touring Ubuntu Linux

4. Microprocessors

What is a CPU?
CPU Speeds and Cores
CPU Caches
32-bit vs. 64-bit processing
CPU Extensions
CPU Sockets
Installing a CPU
Cooling Your PC
Liquid Cooling

5. RAM

RAM: Sticks and Speeds
RAM Capacity

- Other Types of RAM
- Installing RAM
- Troubleshooting RAM
- Virtual Memory

6. BIOS

- What is the BIOS?
- POST
- System Setup
- Troubleshooting BIOS

7. Motherboards

- Form Factors
- ATX and ITX
- Chipsets
- The Expansion Bus
- Touring the Motherboard
- Installing a Motherboard

8. Power Supplies

- Electricity Basics
- The Power Supply
- Niche Power Supplies and Features
- Choosing a Power Supply
- Power Protection
- Troubleshooting Power Supplies

9. Hard Drive Technologies

- Hard Drives
- Solid State Drives
- Hard Drive Overview
- RAID
- Hardware RAID
- Setting the Boot Order

10. Implementing Hard Drives

- Understanding Partitioning
- Basic Partitioning
- Dynamic Disks
- Decimal and Binary Prefixes
- File Systems
- Implementing RAID
- Storage Spaces
- Hard Drive Troubleshooting

11. Essential Peripherals

- CD Media
- DVD Media
- Blu-ray Media
- Universal Serial Bus
- USB
- Configuring USB
- Flash Memory Overview

- Firewire and Other Connections
- Keyboards and Mice
- Other Input Devices
- KVM Switches
- Cameras and Camcorders
- Webcams
- Installing PC Expansion Cards Part 1
- Installing PC Expansion Cards Part 2

12. Building a PC

- The Right PC for You
- Media Sources
- Windows Install Options
- Windows Upgrade Paths
- Installing Windows
- Post-Installation Tasks

13. Windows Under the Hood

- What is the Registry
- The Boot Process
- Processes
- Dealing with Processes
- Services
- Windows 8 Task Manager

14. Users, Groups, and Permissions

- Introduction to Users and Groups
- Creating Users in Windows Vista/7
- Managing Users in Windows 8/8.1
- Sharing Folders and Files

15. Maintaining and Optimizing Operating Systems

- The Zen of Computer Maintenance
- Patch Management
- Autostarting Programs in Windows
- Meet the MMC
- Installing and Uninstalling Programs
- Windows System Restore
- Windows Backup

16. Working with the Command-Line Interface

- Windows Command Line Basics
- Working with folders and files
- Fancy Copying
- Working With Drives
- Advanced Windows Command Line
- Linux Command Line Basics
- Working with Folders and Files in Linux
- Linux File Permissions
- Miscellaneous Linux Commands

17. Troubleshooting Operating Systems

- Recovery Console

- Windows Recovery Environment
- Advanced Startup Options Part 1
- Advanced Startup Options Part 2
- Boot Problems
- Event Viewer and Action Center
- Application Troubleshooting
- Kernel Panics

18. Virtualization

- Virtualization Basics
- Your First Virtual Machine
- Infrastructure as a Service
- Platform as a Service
- Software as a Service
- Cloud Ownership

19. Display Technologies

- How Monitors Work
- Plasma and DLP displays
- VGA and DVI
- Other Video Connections
- Graphics Cards
- Projectors
- Using Multiple Monitors
- Troubleshooting Video

20. Essentials of Networking

- Introduction to Networking
- Moving Data Over a Network
- Structured Cabling
- Patch Cables
- Fiber Optic and Coaxial Cabling
- Networking Tools

21. Local Area Networking

- Introduction to TCP/IP
- Network IDs and Subnet Mask
- Dynamic IP Addressing
- Special IP addresses
- NAT
- PING and IPconfig
- TCP, UDP, and ICMP
- Port Numbers
- Working with Connections

22. Use Net+ CH10 - DNS, Pt 1

- Understanding DNS
- Dealing with DNS
- Windows Naming
- Routers
- Configuring Routers
- Advanced Router Configuration

23. Wireless Networking

Wireless Network Hardware

Wi-Fi Standards

Basic WAP Setup

Wireless Encryption

Use Net+ CH15 - WPS chapter

Wireless Problem Scenarios

Connecting to a Wi-Fi network

Troubleshoot wireless Connections

Bluetooth

24. The Internet

Internet Tiers

Dial-up Connections

Broadband connections

Wireless Internet connections

Internet Applications

Telnet and SSH

HTTP

Internet Options

E-mail

FTP

Remote Desktop Connections

File sharing

Proxy Servers

Troubleshooting Internet Connections

25. Portable Computing

Laptop Types

Laptop Expandability

Touring a laptop

Laptop Ports

Proper Laptop Disassembly

Power Management

Troubleshooting Laptops

26. Understanding Mobile Devices

What is a mobile device?

Wired Mobile Connections

Touring Android

Touring iOS

Touring Windows Mobile

27. Care and Feeding of Mobile Devices

Cellular Configuration

Wireless Mobile Connections - Part 1

Wireless Mobile Connections - Part 2

Mobile Devices and Email

Synchronization

Securing Android Devices

Securing iOS Devices

28. Printers and Multifunction Devices

- Printer Technologies

- Printer connections

- Installing Local Printers

- Installing Network Printers

- Cloud Printing

- Maintaining Impact Printers

- Maintaining Inkjet Printers

- Maintaining Laser Printers

- Troubleshooting Print Jobs

29. Securing Computers

- Physical Security

- Passwords and Authentication

- Protecting Against Snoops

- Malware

- Anti-Malware Applications

- Anti-Malware Practices

- Hardware Firewalls

- Software Firewalls

- Data Destruction

- Incident Response