COURSE OUTLINE:

A+ COMPREHENSIVE

MedCerts™

Course Outline

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 Enviornment
    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 Montiors Work
    Plasma and DLP displays
    VGA and DVI
    Other Video Connections
    Graphics Cards
    Projectors
    Using Mulitple Montiors
    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 Synchonization
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