



Mobile Training & Education Inc

"Anytime, Anywhere Training at its BEST"

Computer Design and Servicing

LENGTH: 60 hours delivered over day, evening or weekend hours

DESCRIPTION:

In this 60 hour course students will learn basic computer design and servicing. Students will learn the operation and maintenance of all computer components, to include troubleshooting faulty components/systems. Basic networking skills will be taught in relationship the troubleshooting hardware problems. Students will also be taught procedures for installing and configuring operating systems and component drivers. Students will learn the operation of all computer components and how they inter-relate. Basic computer design and compatibility of the various components will be taught in addition to troubleshooting various malfunctions.

WHO SHOULD ATTEND:

Anyone interested in pursuing or advancing a career in the computer service industry.

PREREQUISITES:

No previous experience within the industry is required to attend.

ELIGIBLE CERTIFICATIONS:

Upon successful completion of this course, the student will be prepared to take the ETA (Electronics Technicians Association) Computer Service Technician examination.

OUTLINE:

Through hands-on training, students learn the vendor-neutral skills necessary for pursuing or advancing a career in the IT industry. This course covers beginner level topics including but not limited to:

- Assemble and disassemble a computer
- Identify CPUs used in specific sockets/slots
- Compare different chipset versions and features
- Explain the purpose of IRQs and common selections for COM1, Com2, LPT1, and LPT2
- Explain the purpose and use of DMAs
- Describe the purpose of I/O addresses
- Describe Flash BIOS and demonstrate the ability to upgrade/update BIOS
- Processor Characteristics
- Explain the differences between the L1 and L2 cache
- Describe Advanced Transfer Cache and its benefits
- Memory Characteristics
- Secondary Storage Devices
- Describe EIDE hard drive technology and explain how data is stored on a hard drive
- Describe the CD-ROM/CD-RW technology and state its advantages and uses
- Compare DVD, DVD-RAM, DVD-RW, and DVD+RW technologies
- Explain the applications for USB drive
- Explain Modem technology and standards, and demonstrate the installation and configuration of a modem
- Demonstrate how to install and use soundcards
- Describe the basic features of video monitors and safety aspects
- Compare the different printer technologies used in PCs
- Describe scanner technology, installation, and operation
- Describe digital camera operation and interfacing with PCs
- Compare the MPEG standards for Digital Video

- Describe Game/Midi ports Power Supplies
- Explain the purposes of a UPS (uninterruptible power supplies)
- Basic Networking Concepts
- Cabling
- List the harmful effects of EMI (electromagnetic interference)
- Explain the basics of Network Operating Systems (NOS)
- Digital Concepts
- Describe the function of virus scanners and their methods
- Describe the usage of Adware and Spyware
- Demonstrate the use of basic troubleshooting commands (such as Fdisk, Format, Sys, Xcopy, etc.)
- Explain Windows Registry Management as it pertains to editing, backup, and restoration
- Define purposes and usage of Virtual Memory and display the ability to adjust Virtual Memory settings
- File Management
- Safety Procedures/Handling
- Workplace Practices

LAB LEARNING:

- Disassembly and reassembly of a computer
- Loading and configuring an operating system
- Loading and configuring system drivers
- Troubleshooting and repairing hardware failures