At the end of this course, students will be able to:

- Identify the components of standard desktop personal computers.
- Identify fundamental components and functions of personal computer operating systems.
- Identify best practices followed by professional personal computer technicians.
- Install and configure computer components.
- Install and configure system components.
- Maintain and troubleshoot peripheral components.
- Troubleshoot system components.
- Install and configure operating systems.
- Maintain and troubleshoot installations of Microsoft Windows.
- Identify network technologies.

Prerequisites:

Students taking this course should have the following skills: End-user skills with Windows-based personal computers, including the ability to: Browse and search for information on the Internet. Start up and shut down the computer. Log on to a computer and computer network. Run programs. Move, copy, delete, and rename files in Windows Explorer. Basic knowledge of computing concepts, including: The difference between hardware and software. The functions of software components, such as the operating system, applications, and file systems. The function of a computer network.

Course Outline

Lesson 1: Personal Computer Components

Topics:
- Personal Computer Components
- System Unit Components
- Storage Devices
- Personal Computer Connection Methods

Lesson 2: Operating System Fundamentals

Topics:
- Personal Computer Operating Systems
- Windows User Interface Components
- Windows File System Management
- Windows System Management Tools

Lesson 3: PC Technician Professional Best Practices

Topics:
- Tools of the Trade
- Electrical Safety
- Environmental Safety and Materials Handling
- Perform Preventative Maintenance
- Diagnostics and Troubleshooting
- Professionalism and Communication

Lesson 4: Installing and Configuring Peripheral Components

Topics:
- Install and Configure Display Devices
- Install and Configure Input Devices
- Install and Configure Adapter Cards
- Install and Configure Multimedia Devices

Lesson 5: Installing and Configuring System Components

Topics:
- Install and Configure Storage Devices
- Install and Configure Power Supplies
- Install and Configure Memory
- Install and Configure CPUs
- Install and Configure System Boards

Lesson 6: Maintaining and Troubleshooting Peripheral Components

Topics:
- Troubleshoot Display Devices
- Maintain and Troubleshoot Input Devices
- Troubleshoot Adapter Cards
- Troubleshoot Multimedia Devices
Lesson 7: Troubleshooting System Components

Topics:
- Troubleshoot Storage Devices
- Troubleshoot Power Supplies
- Troubleshoot Memory
- Troubleshoot CPUs
- Troubleshoot System Boards

Lesson 8: Installing and Configuring Operating Systems

Topics:
- Install Microsoft Windows
- Upgrade Windows
- Add Devices to Windows
- Optimize Windows

Lesson 9: Maintaining and Troubleshooting Microsoft Windows

Topics:
- Operating System Utilities
- Maintain Microsoft Windows
- Troubleshoot Microsoft Windows
- Recover Microsoft Windows

Lesson 10: Network Technologies

Topics:
- Network Concepts
- Network Communications
- Network Connectivity
- Internet Technologies

Lesson 11: Installing and Managing Network Connections

Topics:
- Create Network Connections
- Install and Configure Web Browsers
- Maintain and Troubleshoot Network Connections

Lesson 12: Supporting Laptops and Portable Computing Devices

Topics:
- Laptop and Portable Computing Device Components
- Install and Configure Laptops and Portable Computing Devices
- Maintain and Troubleshoot Laptops and Portable Computing Devices

Lesson 13: Supporting Printers and Scanners

Topics:
- Printer and Scanner Technologies
- Printer and Scanner Components
- Printer and Scanner Processes
- Install and Configure Printers and Scanners
- Maintain and Troubleshoot Printers and Scanners

Lesson 14: Personal Computer Security Concepts

Topics:
- Security Fundamentals
- Security Protection Measures
- Data and Physical Security
- Wireless Security
- Social Engineering

Lesson 15: Supporting Personal Computer Security

Topics:
- Install and Configure Security Measures
- Maintain and Troubleshoot Security Measures

Appendix E: A Brief History of Personal Computers

Appendix F: CompTIA A+ Acronyms