

Program Title: **IT Specialist**

Duration: 6 Months

Methods of Instruction: One-on-one instruction, classroom lecture, hands-on computer assisted, lab

Educational Credential: IT Certification

Program Overview

Training will be broken up into three (3) parts – CompTIA A+, Network+ and Security+. Over the course of the six to eight weeks, time will also be spent on customer service and communication training as this is a key skill that usually gets overlooked with IT training programs. All training will be delivered at ProTRAIN's computer lab. Topics/details for each course are listed below.

Total Cost: \$4,450 *Note: Includes textbooks and certification exams*

Course Topics

CompTIA A+

Overview

In this course, students will acquire the essential skills and information needed to install, upgrade, repair, configure, troubleshoot, optimize, and perform preventative maintenance of basic personal computer hardware and operating systems.

Outline

Lesson 1: Hardware Fundamentals

- Computer System Components
- Storage Devices
- Device Connections and Interfaces

Lesson 2: Operating System Fundamentals

- Personal Computer Operating Systems
- Windows Control Panel Utilities
- Command Line Tools
- Windows Security Settings
- Windows Operating System Tools

Lesson 3: Operational Procedures

- Basic Maintenance Tools and Techniques
- Electrical Safety
- Environmental Safety and Materials Handling
- Professionalism and Communication

Lesson 4: Peripheral Components

- Install and Configure Display Devices
- Install and Configure Input Devices
- Install and Configure Expansion Cards
- Install and Configure Multimedia Devices

Lesson 5: Managing System Components

- Motherboards
- CPUs and Cooling Systems
- Select and Install Power Supplies
- RAM Types and Features
- Install and Configure Storage Devices
- Configure the System BIOS

Lesson 6: Installing and Configuring Operating Systems

- Implement Virtualization
- Install Microsoft Windows
- Windows Upgrades
- Windows Preventive Maintenance

Lesson 7: Customized Client Environments

- Standard Clients
- Custom Client Environments

Lesson 8: Networking Technologies

- Physical Network Connections
- TCP/IP
- Network Connectivity
- Ports and Protocols
- Set Up and Configure Windows Networking
- Networking Tools

Lesson 9: Installing, Configuring, and Maintaining SOHO Networks

- Install and Configure SOHO Networks
- Network Security

Lesson 10: Supporting Laptops

- Laptop Hardware and Components
- Install and Configure Laptop Hardware Components

Lesson 11: Mobile Computing

- Mobile Device Technologies
- Configure Mobile Devices

Lesson 12: Supporting Printers

- Printer Technologies
- Install, Configure, and Maintain Printers

Lesson 13: Security

- Security Fundamentals
- Security Threats and Vulnerabilities
- Security Protection Measures
- Workstation Security

Lesson 14: Troubleshooting Hardware Components

- Troubleshooting Theory
- Troubleshoot Video and Display Devices
- Troubleshoot Hard Drives and RAID Arrays
- Troubleshoot System Components
- Troubleshoot Laptops
- Troubleshoot Printers

Lesson 15: Troubleshooting System-Wide Issues

- Troubleshoot Operating Systems
- Troubleshoot Wired and Wireless Networks
- Troubleshoot Common Security Issues

CompTIA Network+

Overview

This course is designed to provide network technicians with the foundation-level skills they need to install, operate, manage, maintain, and troubleshoot a corporate network.

Outline

Lesson 1: Networking basics

The OSI and TCP/IP models
The OSI model and network components

Lesson 2: Networking ports and protocols

Common networking protocols
The Domain Name System
Dynamic Host Configuration Protocol
Common TCP and UDP ports
IP addressing

Lesson 3: Routing and switching

Routing
Installing routers and switches

Lesson 4: Networking technologies

Network topologies
LAN technologies
WAN technologies
Virtual networks

Lesson 5: Media and connectors

Standard media types
Standard connector types
Wiring distribution components

Lesson 6: SOHO networking

Implementing a SOHO network

Lesson 7: Wireless networking

Wireless standards
Installing and configuring wireless networks
Implementing wireless security

Lesson 8: Monitoring and optimization

Network hardware tools
Network software tools
Monitoring and analyzing network traffic
Optimizing network performance
Network appliances

Lesson 9: Network access

Network access security methods
User authentication

CompTIA Security+

Overview

In this course, students will implement, monitor, and troubleshoot infrastructure, application, information, and operational security.

Outline

Lesson 1: Security Fundamentals

The Information Security Cycle
Information Security Controls
Authentication Methods
Cryptography Fundamentals
Security Policy Fundamentals

Lesson 2: Identifying Security Threats and Vulnerabilities

Social Engineering
Malware

- Software-Based Threats
- Network-Based Threats
- Wireless Threats and Vulnerabilities
- Physical Threats and Vulnerabilities

Lesson 3: Managing Data, Application, and Host Security

- Manage Data Security
- Manage Application Security
- Manage Device and Host Security
- Manage Mobile Security

Lesson 4: Implementing Network Security

- Configure Security Parameters on Network Devices and Technologies
- Network Design Elements and Components
- Implement Networking Protocols and Services
- Apply Secure Network Administration Principles
- Secure Wireless Traffic

Lesson 5: Implementing Access Control, Authentication, and Account Management

- Access Control and Authentication Services
- Implement Account Management Security Controls

Lesson 6: Managing Certificates

- Install a CA Hierarchy
- Enroll Certificates
- Secure Network Traffic by Using Certificates
- Renew Certificates
- Back Up and Restore Certificates and Private Keys
- Revoke Certificates

Lesson 7: Implementing Compliance and Operational Security

- Physical Security
- Legal Compliance
- Security Awareness and Training
- Integrate Systems and Data with Third Parties

Lesson 8: Risk Management

- Risk Analysis
- Implement Vulnerability Assessment Tools and Techniques
- Scan for Vulnerabilities
- Mitigation and Deterrent Techniques

Lesson 9: Troubleshooting and Managing Security Incidents

- Respond to Security Incidents
- Recover from a Security Incident

Lesson 10: Business Continuity and Disaster Recovery Planning

- Business Continuity
- Plan for Disaster Recovery
- Execute DRPs and Procedures