



GROWING HOME

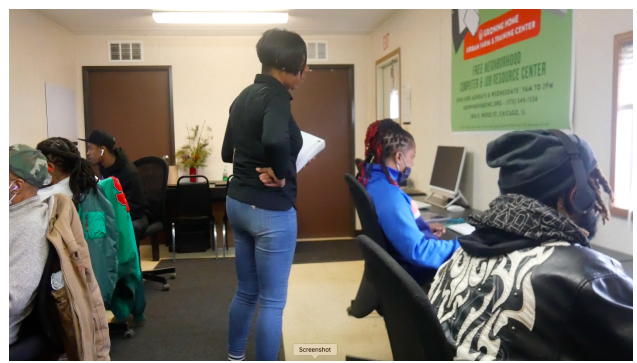
...

2022/2023 Growing Home IT-Training Photos

Please enjoy these photos of Growing Home's IT-Training and Workforce Development Programs in action! We invite you to come tour our facilities and see our program in person when you have the availability.



Growing Home IT-Technology Participants engage in hands-on learning to understand the ins and outs of computer technology at our Resource Center.



Growing Home staff provide one-on-one and group learning environments for trainees in our programs. Photo to the right shows half of our brand new Computer Resource Center, open to participants and the public for free.



GROWING HOME

...



Growing Home trainees attend job fairs alongside Growing Home staff. Left is Growing Home trainees dressed professionally and ready to go for interviews! Right are two Growing Home graduates at a job fair, engaging live with employers (and dressed stylishly with Growing Home's partnership with Dress for Success!).



Growing Home Workforce Development staff out recruiting at various hiring and resource fairs in the community.



GROWING HOME

...

Growing Home IT-Training Curriculum

As part of our current 8-Week IT-Training, Growing Home follows the first part of the Cisco-IT Essentials Curriculum (Part 1).

With Growing Home's plan to expand to a 12-week IT-Training Program in CompTia Certifications in the Fall of 2023, Growing Home will follow the A+, Network and Security+ curriculum that coincide with the training and exam certification. Attached are the curriculum guide as well as sample lessons for each certification (Part 2, 3, 4).



IN ENGLEWOOD

LEARN THE LATEST IN INFORMATION TECHNOLOGY START YOUR CAREER WITH OUR INDUSTRY-RECOGNIZED TRAINING.

- ✓ Stipend program available
- ✓ Paid Internship Opportunity Upon Graduation
- ✓ IT Essentials Certificate from CISCO or COMPTIA Network
- ✓ 8-Week Program

UPCOMING TRAINING

- Mon. thru Wed. 9am-12pm
- April 17 - June 12
- July 10 - September 4
- Sept. 25 - November 20

REGISTER NOW

5814 S. Wood Street, Chicago IL 60636

Phone: 773.434.7144, Option 4

Email: info@growinghomeinc.org

Online: growinghomeinc.org/center

QR Scan Code and Register





GROWING HOME

...

Growing Home IT-Training Curriculum

Cisco-IT Essentials Curriculum (Part 1)



IT Essentials

PC Hardware and Software Companion Guide

Fourth Edition



Contents at a Glance

	Introduction	xxxvi
Chapter 1:	Introduction to the Personal Computer	1
Chapter 2:	Safe Lab Procedures and Tool Use	51
Chapter 3:	Computer Assembly—Step by Step	79
Chapter 4:	Basics of Preventive Maintenance and Troubleshooting	103
Chapter 5:	Fundamental Operating Systems	115
Chapter 6:	Fundamental Laptops and Portable Devices	187
Chapter 7:	Fundamental Printers and Scanners	239
Chapter 8:	Fundamental Networks	277
Chapter 9:	Fundamental Security	345
Chapter 10:	Communication Skills	377
Chapter 11:	Advanced Personal Computers	403
Chapter 12:	Advanced Operating Systems	465
Chapter 13:	Advanced Laptops and Portable Devices	515
Chapter 14:	Advanced Printers and Scanners	551
Chapter 15:	Advanced Networks	585
Chapter 16:	Advanced Security	633
Appendix:	Answers to Check Your Understanding Questions	671
	Glossary	675
	Index	713



GROWING HOME

...

Growing Home IT-Training Curriculum

CompTia A+ Certification (Part 2)

CompTIA®

The Official CompTIA

A+

Core 1

Study Guide

Exam 220-1101



Official CompTIA Content Series for CompTIA Performance Certifications

Table of Contents

Lesson 1: Installing Motherboards and Connectors	1
Topic 1A: Explain Cable Types and Connectors	2
Topic 1B: Install and Configure Motherboards.....	17
Topic 1C: Explain Legacy Cable Types	34
Lesson 2: Installing System Devices	43
Topic 2A: Install and Configure Power Supplies and Cooling.....	44
Topic 2B: Select and Install Storage Devices.....	52
Topic 2C: Install and Configure System Memory.....	65
Topic 2D: Install and Configure CPUs.....	72
Lesson 3: Troubleshooting PC Hardware	81
Topic 3A: Apply Troubleshooting Methodology.....	82
Topic 3B: Configure BIOS/UEFI.....	90
Topic 3C: Troubleshoot Power and Disk Issues	98
Topic 3D: Troubleshoot System and Display Issues.....	110
Lesson 4: Comparing Local Networking Hardware.....	119
Topic 4A: Compare Network Types.....	120
Topic 4B: Compare Networking Hardware	125
Topic 4C: Explain Network Cable Types.....	133
Topic 4D: Compare Wireless Networking Types.....	145
Lesson 5: Configuring Network Addressing and Internet Connections	159
Topic 5A: Compare Internet Connection Types.....	160
Topic 5B: Use Basic TCP/IP Concepts	170
Topic 5C: Compare Protocols and Ports	183
Topic 5D: Compare Network Configuration Concepts.....	189

- Lesson 6: Supporting Network Services..... 199**
 - Topic 6A: Summarize Services Provided by Networked Hosts 200**
 - Topic 6B: Compare Internet and Embedded Appliances 212**
 - Topic 6C: Troubleshoot Networks..... 218**

- Lesson 7: Summarizing Virtualization and Cloud Concepts 227**
 - Topic 7A: Summarize Client-Side Virtualization..... 228**
 - Topic 7B: Summarize Cloud Concepts 235**

- Lesson 8: Supporting Mobile Devices 243**
 - Topic 8A: Set Up Mobile Devices and Peripherals 244**
 - Topic 8B: Configure Mobile Device Apps 261**
 - Topic 8C: Install and Configure Laptop Hardware 274**
 - Topic 8D: Troubleshoot Mobile Device Issues 283**

- Lesson 9: Supporting Print Devices..... 293**
 - Topic 9A: Deploy Printer and Multifunction Devices..... 294**
 - Topic 9B: Replace Print Device Consumables..... 309**
 - Topic 9C: Troubleshoot Print Device Issues..... 325**

- Appendix A: Mapping Course Content to CompTIA® A+® Core 1
(Exam 220-1101).....A-1**

- Solutions S-1**

- Glossary.....G-1**

- Index.....I-1**

About This Course

CompTIA is a not-for-profit trade association with the purpose of advancing the interests of information technology (IT) professionals and IT channel organizations; its industry-leading IT certifications are an important part of that mission. CompTIA's A+ certification is a foundation-level certification designed for professionals with 12 months hands-on experience in a help desk support technician, desk support technician, or field service technician job role.

CompTIA A+ certified professionals are proven problem solvers. They support today's core technologies from security to cloud to data management and more. CompTIA A+ is the industry standard for launching IT careers into today's digital world. It is trusted by employers around the world to identify the go-to person in end-point management and technical support roles. CompTIA A+ is regularly re-invented by IT experts to ensure that it validates core skills and abilities demanded in the workplace.

Course Description

Course Objectives

This course can benefit you in two ways. If you intend to pass the CompTIA A+ Core 1 (Exam 220-1101) certification examination, this course can be a significant part of your preparation. But certification is not the only key to professional success in the field of IT support. Today's job market demands individuals with demonstrable skills, and the information and activities in this course can help you build your skill set so that you can confidently perform your duties in any entry-level PC support role.

On course completion, you will be able to do the following:

- Install, configure, and troubleshoot PC motherboards, system components, and peripheral devices.
- Compare networking hardware types and configure local addressing and Internet connections.
- Summarize uses for network services, virtualization, and cloud computing.
- Support the use of mobile devices and print devices.

Target Student

The Official CompTIA A+ Core 1 (Exam 220-1101) is the primary course you will need to take if your job responsibilities include supporting the use of PCs, mobile devices, and printers within a corporate or small office home office (SOHO) network. You can take this course to prepare for the CompTIA A+ Core 1 (Exam 220-1101) certification examination.



Please note that in order to become A+ certified, a candidate must pass both Exams 220-1101 and 220-1102.



**GROWING
HOME**

...

Growing Home IT-Training Curriculum

CompTia Network Certification (Part 3)

CompTIA®



The Official CompTIA

Network+

Study Guide

Exam N10-008



Official CompTIA Content Series for CompTIA Performance Certifications

Table of Contents

Lesson 1: Comparing OSI Model Network Functions.....	1
Topic 1A: Compare and Contrast OSI Model Layers.....	2
Topic 1B: Configure SOHO Networks.....	10
Lesson 2: Deploying Ethernet Cabling.....	19
Topic 2A: Summarize Ethernet Standards	20
Topic 2B: Summarize Copper Cabling Types	25
Topic 2C: Summarize Fiber Optic Cabling Types.....	34
Topic 2D: Deploy Ethernet Cabling.....	41
Lesson 3: Deploying Ethernet Switching.....	51
Topic 3A: Deploy Networking Devices	52
Topic 3B: Explain Network Interfaces	58
Topic 3C: Deploy Common Ethernet Switching Features	65
Lesson 4: Troubleshooting Ethernet Networks.....	75
Topic 4A: Explain Network Troubleshooting Methodology	76
Topic 4B: Troubleshoot Common Cable Connectivity Issues.....	85
Lesson 5: Explaining IPv4 Addressing.....	97
Topic 5A: Explain IPv4 Addressing Schemes	98
Topic 5B: Explain IPv4 Forwarding	106
Topic 5C: Configure IP Networks and Subnets	115
Lesson 6: Supporting IPv4 and IPv6 Networks.....	125
Topic 6A: Use Appropriate Tools to Test IP Configuration	126
Topic 6B: Troubleshoot IP Networks	133
Topic 6C: Explain IPv6 Addressing Schemes.....	139

Lesson 7: Configuring and Troubleshooting Routers	149
Topic 7A: Compare and Contrast Routing Concepts	150
Topic 7B: Compare and Contrast Dynamic Routing Concepts	156
Topic 7C: Install and Troubleshoot Routers	171
Lesson 8: Explaining Network Topologies and Types	185
Topic 8A: Explain Network Types and Characteristics	186
Topic 8B: Explain Tiered Switching Architecture	194
Topic 8C: Explain Virtual LANs	200
Lesson 9: Explaining Transport Layer Protocols	207
Topic 9A: Compare and Contrast Transport Protocols	208
Topic 9B: Use Appropriate Tools to Scan Network Ports	216
Lesson 10: Explaining Network Services	225
Topic 10A: Explain the Use of Network Addressing Services	226
Topic 10B: Explain the Use of Name Resolution Services	233
Topic 10C: Configure DNS Services	241
Lesson 11: Explaining Network Applications	247
Topic 11A: Explain the Use of Web, File/Print, and Database Services	248
Topic 11B: Explain the Use of Email and Voice Services	256
Lesson 12: Ensuring Network Availability	267
Topic 12A: Explain the Use of Network Management Services	268
Topic 12B: Use Event Management to Ensure Network Availability	274
Topic 12C: Use Performance Metrics to Ensure Network Availability	284

Lesson 13: Explaining Common Security Concepts	295
Topic 13A: Explain Common Security Concepts	296
Topic 13B: Explain Authentication Methods.....	304
Lesson 14: Supporting and Troubleshooting Secure Networks	317
Topic 14A: Compare and Contrast Security Appliances	318
Topic 14B: Troubleshoot Service and Security Issues.....	329
Lesson 15: Deploying and Troubleshooting Wireless Networks	341
Topic 15A: Summarize Wireless Standards	342
Topic 15B: Install Wireless Networks	350
Topic 15C: Troubleshoot Wireless Networks	358
Topic 15D: Configure and Troubleshoot Wireless Security	366
Lesson 16: Comparing WAN Links and Remote Access Methods	375
Topic 16A: Explain WAN Provider Links.....	376
Topic 16B: Compare and Contrast Remote Access Methods	383
Lesson 17: Explaining Organizational and Physical Security Concepts	395
Topic 17A: Explain Organizational Documentation and Policies	396
Topic 17B: Explain Physical Security Methods.....	408
Topic 17C: Compare and Contrast Internet of Things Devices	416
Lesson 18: Explaining Disaster Recovery and High Availability Concepts	423
Topic 18A: Explain Disaster Recovery Concepts	424
Topic 18B: Explain High Availability Concepts.....	431
Lesson 19: Applying Network Hardening Techniques	439
Topic 19A: Compare and Contrast Types of Attacks.....	440
Topic 19B: Apply Network Hardening Techniques.....	453

Lesson 20: Summarizing Cloud and Datacenter Architecture.....	463
Topic 20A: Summarize Cloud Concepts.....	464
Topic 20B: Explain Virtualization and Storage Area Network Technologies.....	471
Topic 20C: Explain Datacenter Network Architecture.....	478
Appendix A: Mapping Course Content to CompTIA Network+ (N10-008).....	A-1
Solutions	S-1
Glossary	G-1
Index	I-1

About This Course

CompTIA is a not-for-profit trade association with the purpose of advancing the interests of IT professionals and IT channel organizations, and its industry-leading IT certifications are an important part of that mission. CompTIA's Network+ Certification is an entry-level certification designed for professionals with 9-12 months' work experience in roles such as a junior network administrator or network support technician.

The CompTIA Network+ certification exam will verify the successful candidate has the knowledge and skills required to:

- Establish network connectivity by deploying wired and wireless devices.
- Understand and maintain network documentation.
- Understand the purpose of network services.
- Understand basic datacenter, cloud, and virtual networking concepts.
- Monitor network activity, identifying performance and availability issues.
- Implement network hardening techniques.
- Manage, configure, and troubleshoot network infrastructure.

CompTIA Network+ Exam Objectives

Course Description

Course Objectives

This course can benefit you in two ways. If you intend to pass the CompTIA Network+ (Exam N10-008) certification examination, this course can be a significant part of your preparation. But certification is not the only key to professional success in the field of network support. Today's job market demands individuals have demonstrable skills, and the information and activities in this course can help you build your network administration skill set so that you can confidently perform your duties in any entry-level network support technician role.

On course completion, you will be able to:

- Deploy and troubleshoot Ethernet networks.
- Support IPv4 and IPv6 networks.
- Configure and troubleshooting routers.
- Support network services and applications.
- Ensure network security and availability.
- Deploy and troubleshooting wireless networks.
- Support WAN links and remote access methods.
- Support organizational procedures and site security controls.
- Summarize cloud and datacenter architecture.



GROWING HOME

...

Growing Home IT-Training Curriculum

CompTia Security+ Certification (Part 4)

CompTIA.



The Official CompTIA

Security+

Study Guide

Exam SY0-601



Official CompTIA Content Series for CompTIA Performance Certifications

Table of Contents

Lesson 1: Comparing Security Roles and Security Controls.....	1
Topic 1A: Compare and Contrast Information Security Roles.....	2
Topic 1B: Compare and Contrast Security Control and Framework Types.....	8
Lesson 2: Explaining Threat Actors and Threat Intelligence	17
Topic 2A: Explain Threat Actor Types and Attack Vectors	18
Topic 2B: Explain Threat Intelligence Sources.....	25
Lesson 3: Performing Security Assessments	35
Topic 3A: Assess Organizational Security with Network Reconnaissance Tools.....	36
Topic 3B: Explain Security Concerns with General Vulnerability Types	50
Topic 3C: Summarize Vulnerability Scanning Techniques	57
Topic 3D: Explain Penetration Testing Concepts.....	67
Lesson 4: Identifying Social Engineering and Malware	73
Topic 4A: Compare and Contrast Social Engineering Techniques.....	74
Topic 4B: Analyze Indicators of Malware-Based Attacks	82
Lesson 5: Summarizing Basic Cryptographic Concepts	95
Topic 5A: Compare and Contrast Cryptographic Ciphers.....	96
Topic 5B: Summarize Cryptographic Modes of Operation	104
Topic 5C: Summarize Cryptographic Use Cases and Weaknesses.....	111
Topic 5D: Summarize Other Cryptographic Technologies.....	120
Lesson 6: Implementing Public Key Infrastructure	125
Topic 6A: Implement Certificates and Certificate Authorities	126
Topic 6B: Implement PKI Management.....	137

Lesson 7: Implementing Authentication Controls	147
Topic 7A: Summarize Authentication Design Concepts	148
Topic 7B: Implement Knowledge-Based Authentication.....	154
Topic 7C: Implement Authentication Technologies.....	164
Topic 7D: Summarize Biometrics Authentication Concepts	172
Lesson 8: Implementing Identity and Account Management Controls	179
Topic 8A: Implement Identity and Account Types	180
Topic 8B: Implement Account Policies	191
Topic 8C: Implement Authorization Solutions.....	199
Topic 8D: Explain the Importance of Personnel Policies	208
Lesson 9: Implementing Secure Network Designs	215
Topic 9A: Implement Secure Network Designs	216
Topic 9B: Implement Secure Switching and Routing	227
Topic 9C: Implement Secure Wireless Infrastructure.....	235
Topic 9D: Implement Load Balancers	247
Lesson 10: Implementing Network Security Appliances	255
Topic 10A: Implement Firewalls and Proxy Servers.....	256
Topic 10B: Implement Network Security Monitoring.....	268
Topic 10C: Summarize the Use of SIEM.....	275
Lesson 11: Implementing Secure Network Protocols	283
Topic 11A: Implement Secure Network Operations Protocols.....	284
Topic 11B: Implement Secure Application Protocols.....	292
Topic 11C: Implement Secure Remote Access Protocols.....	301
Lesson 12: Implementing Host Security Solutions	317
Topic 12A: Implement Secure Firmware	318
Topic 12B: Implement Endpoint Security	325
Topic 12C: Explain Embedded System Security Implications.....	331

Lesson 13: Implementing Secure Mobile Solutions	343
Topic 13A: Implement Mobile Device Management	344
Topic 13B: Implement Secure Mobile Device Connections	356
Lesson 14: Summarizing Secure Application Concepts	365
Topic 14A: Analyze Indicators of Application Attacks	366
Topic 14B: Analyze Indicators of Web Application Attacks.....	372
Topic 14C: Summarize Secure Coding Practices	383
Topic 14D: Implement Secure Script Environments	390
Topic 14E: Summarize Deployment and Automation Concepts.....	399
Lesson 15: Implementing Secure Cloud Solutions	407
Topic 15A: Summarize Secure Cloud and Virtualization Services	408
Topic 15B: Apply Cloud Security Solutions.....	418
Topic 15C: Summarize Infrastructure as Code Concepts	429
Lesson 16: Explaining Data Privacy and Protection Concepts.....	437
Topic 16A: Explain Privacy and Data Sensitivity Concepts.....	438
Topic 16B: Explain Privacy and Data Protection Controls.....	447
Lesson 17: Performing Incident Response	455
Topic 17A: Summarize Incident Response Procedures.....	456
Topic 17B: Utilize Appropriate Data Sources for Incident Response	465
Topic 17C: Apply Mitigation Controls.....	475
Lesson 18: Explaining Digital Forensics	483
Topic 18A: Explain Key Aspects of Digital Forensics Documentation	484
Topic 18B: Explain Key Aspects of Digital Forensics Evidence Acquisition	490
Lesson 19: Summarizing Risk Management Concepts	499
Topic 19A: Explain Risk Management Processes and Concepts	500
Topic 19B: Explain Business Impact Analysis Concepts.....	508

Lesson 20: Implementing Cybersecurity Resilience	515
Topic 20A: Implement Redundancy Strategies.....	516
Topic 20B: Implement Backup Strategies	522
Topic 20C: Implement Cybersecurity Resiliency Strategies	530
Lesson 21: Explaining Physical Security	539
Topic 21A: Explain the Importance of Physical Site Security Controls	540
Topic 21B: Explain the Importance of Physical Host Security Controls.....	548
Appendix A: Mapping Course Content to CompTIA Security+ (Exam SY0-601)	A-1
Solutions	S-1
Glossary.....	G-1
Index.....	I-1

About This Course

CompTIA is a not-for-profit trade association with the purpose of advancing the interests of IT professionals and IT channel organizations and its industry-leading IT certifications are an important part of that mission. CompTIA's Security+ certification is a foundation-level certificate designed for IT administrators with two years' experience whose job role is focused on system security.

The CompTIA Security+ exam will certify the successful candidate has the knowledge and skills required to assist with cybersecurity duties in small and large organizations. These duties include assessments and monitoring; secure network, host, app, and cloud provisioning; data governance; and incident analysis and response.

CompTIA Security+ is the first security certification IT professionals should earn. It establishes the core knowledge required of any cybersecurity role and provides a springboard to intermediate-level cybersecurity jobs. Security+ incorporates best practices in hands-on troubleshooting to ensure security professionals have practical security problem-solving skills. Cybersecurity professionals with Security+ know how to address security incidents—not just identify them.

Security+ is compliant with ISO 17024 standards and approved by the US DoD to meet directive 8140/8570.01-M requirements. Regulators and government rely on ANSI accreditation because it provides confidence and trust in the outputs of an accredited program.

comptia.org/certifications/security

Course Description

Course Objectives

This course can benefit you in two ways. If you intend to pass the CompTIA Security+ (Exam SY0-601) certification examination, this course can be a significant part of your preparation. But certification is not the only key to professional success in the field of computer security. Today's job market demands individuals with demonstrable skills, and the information and activities in this course can help you build your cybersecurity skill set so that you can confidently perform your duties in any entry-level security role.

On course completion, you will be able to:

- Compare security roles and security controls
- Explain threat actors and threat intelligence
- Perform security assessments and identify social engineering attacks and malware types
- Summarize basic cryptographic concepts and implement public key infrastructure
- Implement authentication controls
- Implement identity and account management controls
- Implement secure network designs, network security appliances, and secure network protocols
- Implement host, embedded/Internet of Things, and mobile security solutions
- Implement secure cloud solutions

- Explain data privacy and protection concepts
- Perform incident response and digital forensics
- Summarize risk management concepts and implement cybersecurity resilience
- Explain physical security

Target Student

The Official CompTIA Security+ Guide (Exam SY0-601) is the primary course you will need to take if your job responsibilities include securing network services, devices, and data confidentiality/privacy in your organization. You can take this course to prepare for the CompTIA Security+ (Exam SY0-601) certification examination.

Prerequisites

- To ensure your success in this course, you should have basic Windows and Linux administrator skills and the ability to implement fundamental networking appliances and IP addressing concepts. CompTIA A+ and Network+ certifications, or equivalent knowledge, and six to nine months' experience in networking, including configuring security parameters, are strongly recommended.



The prerequisites for this course might differ significantly from the prerequisites for the CompTIA certification exams. For the most up-to-date information about the exam prerequisites, complete the form on this page: comptia.org/training/resources/exam-objectives

How to Use the Study Notes

The following notes will help you understand how the course structure and components are designed to support mastery of the competencies and tasks associated with the target job roles and help you to prepare to take the certification exam.

As You Learn

At the top level, this course is divided into **lessons**, each representing an area of competency within the target job roles. Each lesson is composed of a number of topics. A **topic** contains subjects that are related to a discrete job task, mapped to objectives and content examples in the CompTIA exam objectives document. Rather than follow the exam domains and objectives sequence, lessons and topics are arranged in order of increasing proficiency. Each topic is intended to be studied within a short period (typically 30 minutes at most). Each topic is concluded by one or more activities, designed to help you to apply your understanding of the study notes to practical scenarios and tasks.

Additional to the study content in the lessons, there is a glossary of the terms and concepts used throughout the course. There is also an index to assist in locating particular terminology, concepts, technologies, and tasks within the lesson and topic content.



In many electronic versions of the book, you can click links on key words in the topic content to move to the associated glossary definition, and on page references in the index to move to that term in the content. To return to the previous location in the document after clicking a link, use the appropriate functionality in your eBook viewing software.