Chapter 1

The Path of the PC Tech

# Learning Objectives

In this lesson, students will learn about CompTIA A+ certification. Upon successful completion of this lesson, they should be able to do the following:

* Explain the importance of CompTIA A+ certification.
* Detail the CompTIA A+ certification objectives.
* Describe how to become CompTIA A+ certified.

Estimated Time for Module: 1 hour

# Introduction

## Gain Attention

1. Common ground

2. WIIFM (what’s in it for me) statement to generate interest in topic

Instructor Tip

When gaining attention and establishing common ground, ask questions of the class, such as, “How many of you have heard of CompTIA or the CompTIA A+ certification?” and “How did you hear about CompTIA or the A+ certification?”

For a WIIFM statement, say to the class, “The CompTIA A+ certification is the première entry-level certification for most IT workers. It covers the base of knowledge an IT worker should know and understand. It covers a wide breadth of material regarding computer hardware, Microsoft operating systems, printers, networking, security, and customer service. Obtaining the CompTIA A+ certification proves you have a base of knowledge. Often employers use the CompTIA A+ as a gate or entry-level benchmark of knowledge. In fact, many companies who employ PC technicians or computer help-desk workers require that employees have at least the CompTIA A+. Some may also train their entry-level technicians using the A+ Certification.”

## Class Preparation

1. If possible, your students should have computers with Internet access to complete the exercise at the end of the chapter.

2. Gather a few Internet or local newspaper job listings for PC or desktop support technician jobs that mention the CompTIA A+ as a required skill.

## Timing

1. Lecture: 30 minutes

2. Exercise (Exploring the CompTIA Web Site): 30 minutes

Instructor Tip

# *The pre-tests are designed to give you an indication of how much prior knowledge your students have brought to this class. They are meant to be used for class discussion rather than as real tests. As such, only a few questions are included in each test, and the answers are not provided. You can use pre-tests to gain a rapport with your students and measure how much time you might need to take on a particular subject.*

# Pre-test

1. What is CompTIA and what is its purpose?

2. How many exams are required for a candidate to become CompTIA A+ certified?

3. What topics are covered on the CompTIA A+ exams?

4. What are the advantages of CompTIA A+ certification?

5. Describe how the CompTIA A+ Certification exams are administered.

# Lecture Outline

I. Introduction

A. A modern PC tech works with many devices running many different systems.

1. Almost everything interconnects as well, and a PC tech makes that connection happen.

B. This book provides the information you need to know to become a great tech.

1. Chapter 1 explains the importance of credentials and the steps you need to follow to obtain them.

II. CompTIA A+ certification

A. The concept of certifications: Certifications are required in many different fields and are used to verify someone’s competence.

B. The importance of CompTIA A+ certification

1. Certification identifies personnel who have the skills to maintain, upgrade, and repair PCs.

2. Many vendor-specific computer certifications are available: Microsoft Certified Solutions Expert (MCSE) and Cisco Certified Network Associate (CCNA) are two examples.

C. What is CompTIA A+ certification?

1. Vendor-neutral certification program

Discussion Point

Describe what is meant by “vendor-neutral.” Most hardware devices, whether they are a Compaq, HP, or Lenovo laptop computer, will have many of the same components. Although they will have different makes and models of motherboards, hard drives, and RAM, they are all laptop computers. The exam topics will focus on major hardware specifications and on best practices for installing, troubleshooting, managing, and maintaining computers and other devices. The one exception for vendor neutrality is the operating systems covered on the exams. Currently, the majority of the content focuses on the Microsoft Windows operating systems. A limited scope of questions address the Linux, Mac OS S, iOS, and Android.

2. Demonstrates basic competency in supporting microcomputers; the test covers topics that a technician would know after twelve months of full-time experience

3. Consists of two computer-based multiple-choice exams

4. Most popular of all IT certification programs with more than 800,000 technicians already certified

D. Who is CompTIA?

1. Non-profit industry trade association

2. Consists of more than 20,000 members in 102 countries

3. Sponsors the CompTIA Network+, CompTIA Security+, and other certifications

E. The path to other certifications

1. Many IT companies regard CompTIA A+ as the entry point toward other certifications.

2. The following additional certifications are worth considering:

a) CompTIA Network+ Certification – tests networking skills, including network hardware, installation, and troubleshooting

1) For more details, check www.comptia.org.

Instructor Tip

The CompTIA A+ and other certifications are generally used as stepping stones to other, higher-level certifications. For example, many candidates obtain the CompTIA A+ and CompTIA Network+ and then move on to certifications from other vendors such as Cisco, Microsoft, VMware, or others.

b) Microsoft Professional Certifications – series of certifications for networking professionals.

1) For more details, check www.microsoft.com.

c) Cisco Certification – provides five levels of certification for handling various Cisco products: Certified Cisco Network Associate (CCNA) and several specialty certifications.

1) For more details, check www.cisco.com.

III. CompTIA A+ objectives

A. Pass two computer-based, multiple-choice exams to become CompTIA A+ certified:

1. CompTIA 220-901

2. CompTIA 220-902

B. The basic exam structure

1. The CompTIA A+ 220-901 exam concentrates on understanding terminology and technology, how to do fundamental tasks such as upgrading RAM, and basic network and laptop support.

2. The CompTIA A+ 220-902 exam builds on the first exam, concentrating on operating system support, advanced configuration, and troubleshooting scenarios.

3. Exams are practical application (as opposed to theory).

a) Questions are multiple choice or “click on the right part of the picture.”

b) The question bank frequently has new questions added. Check www.totalsem.com and access the special Tech Files section for articles and updates on CompTIA A+ exam content.

4. Windows-centric

a) The exams focus on Windows operating systems. The exams cover a specific and limited scope of questions on Linux, Mac OS X, iOS, and Android. Windows 10 is not covered at the time of this writing.

Instructor Tip

Let the students know that they should answer all the questions on the test. While some tests penalize students if they get a question wrong, this is not the case for the CompTIA A+ exams.

How many questions? As of this writing, both exams have 100 questions.

How much time is allotted for the exams? As of this writing, each candidate will have 90 minutes to take each exam. Stress that this means they have less than 1 minute to complete each question on the test. These are not deep, thought-provoking questions but are instead simple, straightforward questions that a test taker either knows or doesn’t know.

5. Exam 220-901

a) Five categories or domains are covered: hardware, networking, mobile devices, hardware and network troubleshooting.

b) Domains are weighted differently to identify how many questions you can expect on any topic. For example, hardware shows 40 percent; for a 100-question test, you could expect 40 questions in this domain.

c) Know all the devices in the computer.

d) Expect to be tested on ability to install, configure, and maintain current technologies within a PC.

e) Security topics are included, covering both hardware and software security principles.

f) Extra emphasis is placed on safety and environmental issues, and on communication and professionalism.

6. Exam 220-902

a) Four categories or domains are covered: Windows operating systems, other operating systems & technologies, security, software troubleshooting, and operational procedures

b) There is more focus on determining the appropriate technology.

c) There is less focus on identification of hardware or operating system utilities.

d) While the hardware exam has you identify the technology, the OS exam requires that you know the details.

e) The 220-902 exam goes much deeper into the use of command-line tools.

f) The exam covers the use of diagnostic tools, system recovery tools and techniques, and major disk management tools.

Discussion Point

Take some time to go over the Exam Map in Appendix A and show students how they can use this to target their studying for any individual test.

IV. The path to certification

A. Take and pass the two exams.

B. Stay certified: https://certification.comptia.org/stayCertified.aspx

C. Find a testing center.

1. PearsonVUE administers the exams at various testing centers in the United States, Canada, and 75 other countries around the world.

2. Register online at www.vue.com Web sites or call PearsonVUE at 877-551-7587.

D. How much do the exams cost?

1. For non-CompTIA members, each exam costs $194.

2. Discount vouchers are widely available, including from Total Seminars. Call Total Seminars at 1-800-446-6004 or log on to www.totalsem.com to purchase discount vouchers.

E. How to pass the CompTIA A+ exams

1. Obligate yourself

***Instructor Tip***

“Obligate yourself” can’t be stressed enough as a great tool to help students follow through with certification. In one certification course I teach, students register for the test on the first night of class. They register to take the test four weeks later (at the end of the night class) and I’ve observed 75 to 90 percent of the students take and pass the test within a week of class completion. Before I started having the students register for the test right away, only about 10 percent of the students took and passed the test within a month of completing the course.

2. Set aside the right amount of study time based on your current experience and knowledge. Study time may range from as few as 40 hours for experienced techs to more than 200 hours for beginners.

Discussion Point

Use the tables in the book to help the students identify how much time they need to study.

3. Develop a study strategy. A strategy for study should be based on your experience. Each chapter of the textbook usually includes four sections: “Historical/Conceptual,” “901”, “902” and “Beyond A+.” Experienced techs may skip the section “Historical/Conceptual” and go straight to the sections “901” and “902” Beginners will need to read the section “Historical/Conceptual.”

a) Chapters are divided into major sections.

1) Historical/Conceptual

2) 901 Topics

3) 902 Topics

4) Beyond A+\

**Historical/Conceptual**

4. Study the chapters in the sequence presented in the book to make sure you understand the terms and concepts.

5. Make sure you are proficient at user-level Windows skills, including the following:

a) Recognizing all the components of the standard Windows desktop (Start menu, notification area, etc.)

b) Manipulating windows—resizing, moving, and so on

c) Creating, deleting, renaming, moving, and copying files and folders within Windows

d) Understanding file extensions and their relationship with program associations

e) Using common keyboard shortcuts/hotkeys

f) Installing, running, and closing a Windows application

Exercise

Examining the CompTIA Web Site

If your facility has computers that have Internet access, you can allow the students to examine the CompTIA Web site (www.comptia.org) for more information about the A+ exams and some sample questions. You might also have them find the nearest testing centers, if your facility does not have its own testing center. If your facility has a testing center, you should go over the process of getting discount vouchers and scheduling an exam.

Optional Exercise (may be completed in class or out of class)

Testing Students’ Current Knowledge of A+ Certification Tests

The textbook comes with a CD that contains practice exams for both the 220-801and exams. You might ask the students to take one of each of those tests to determine their current level of knowledge.

# Assessment Quiz

This quiz will test the knowledge that the students have gained during the lesson.

***Questions***

1. What is the required training to earn the CompTIA A+ certification?

2. Name the exams you must pass to become CompTIA A+ Certified.

3. CompTIA A+ certification tests skills equivalent to what period of time working as a full-time technician?

4. Who administers the A+ exams?

5. What is the format of the A+ exams?

6. What happens if you fail one of the exams?

7. How is CompTIA keeping the exams current with today’s technology?

8. Name at least one other certification offered by CompTIA.

9. How much do the A+ exams cost and how can you get reduced price exams?

10. Name at least two advantages to becoming CompTIA A+ Certified.

***Answers***

1. There is no prerequisite training.

2. You must pass two exams: the 220-901 exam and the 220-902 exam.

3. A+ tests skills equivalent to having worked nine months as a full-time tech.

4. The exams are administered by PearsonVUE at various testing centers worldwide.

5. The exams are given on the computer, and all questions are either multiple-choice or require that you click a picture to identify the correct part.

6. You may retake the exam, but you will have to pay again. You will not become certified until you have passed both exams.

7. CompTIA released the current version of the test in 2015 and plans to add new questions to the exams continually to reflect technological changes.

8. CompTIA also offers Network+ and Security+ certification.

9. Currently the A+ exams are priced at $194 for each exam for non-CompTIA members. You can usually get discount vouchers from a CompTIA member, such as those offered by Total Seminars.

10. The advantages of becoming A+ certified are numerous. Below are some examples:

* Verifies knowledge, and helps to secure a position in the industry
* Helps to secure promotions within the industry
* Serves as a basis for other certifications as it is industry-recognized as the première entry-level IT certification
* Often required by many employers as a prerequisite for employment, etc.