

Chapter 1

The Path of the PC Tech

Lab Exercises

- 1.01 Study Preparation
- 1.02 Other Certifications
- 1.03 Gathering Equipment

Well, now you've really done it. The fact that you hold this lab manual in your hands says one thing loud and clear—you're deadly serious about getting that CompTIA A+ certification! Good. Even though the CompTIA A+ certification exams are considered entry-level, you'll still need to take them seriously if you want to pass.

Because you're serious, I'm going to let you in on a secret: The key to passing these exams is preparation. When I say "preparation," I'm not talking about studying—although of course studying is important! I'm talking about *preparing to study*. You need to know exactly how to study for this exam, and you need to have the right tools to get that studying done. Sure, you've got a textbook and you've got a lab manual, but you're not yet ready to hit the books.

In this chapter, you'll go through the steps you need to start studying for the CompTIA A+ exams. First, you'll organize what you need to study. Second, you'll learn how the CompTIA A+ certification helps move you toward more advanced certifications. Finally, you'll get some ideas on how to gather equipment so that you can reinforce what you read with real hardware and software. So stay serious, roll up your sleeves, and start preparing to study for the CompTIA A+ exams!



60 MINUTES

Lab Exercise 1.01: Study Preparation

If you're a child of the TV age—and who isn't these days?—then you might have heard of a TV show called *The A-Team* starring George Peppard and Mr. T. Okay, so maybe it wasn't the greatest television, but I always remember one line from this show: "I love it when a plan comes together!" That's how you should feel as you get ready to become CompTIA A+ certified. In fact, just for fun, let's call ourselves the "A+ Team" as we put a plan together to knock that test right into next week's episode!

Learning Objectives

This lab helps you lay out a logical path for your studies. To do this, you need to deal with three issues: determining your weak points, checking your study habits, and scheduling the exams.

At the end of this lab, you'll be able to

- Identify the CompTIA A+ topics you need to learn
- Develop a good study plan
- Understand how to schedule the CompTIA A+ exams

Lab Materials and Setup

The materials you need for this lab are

- A PC with Internet access
- A telephone

Getting Down to Business

Total Seminars has been teaching CompTIA A+ certification for years, and we've developed a handy template to help you determine what you need to study and how much time you need to devote to preparing for the CompTIA A+ exams. This is the same table shown in the Mike Meyers' *A+ Guide to Managing and Troubleshooting PCs* textbook, but with an extra step added to help you determine the topics you need to study.

Step 1 For each skill listed in the table that follows, circle the number that corresponds to the amount of experience you have: None, Once or Twice, Every Now and Then, or Quite a Bit. You'll use that number to calculate the total number of hours you have to study for the exams.

Technical Task	Amount of Experience			
	None	Once or Twice	Every Now and Then	Quite a Bit
Installing an adapter card	12	10	8	4
Installing hard drives	12	10	8	4
Installing modems and network interface cards (NICs)	8	6	4	2
Connecting a computer to the Internet	8	6	4	2
Installing printers and scanners	4	3	2	1
Installing random access memory (RAM)	8	6	4	2

Technical Task	Amount of Experience			
	None	Once or Twice	Every Now and Then	Quite a Bit
Installing central processing units (CPUs)	8	7	5	3
Fixing printers	6	5	4	3
Fixing boot problems	8	7	7	5
Fixing portable computers	8	6	4	2
Building complete systems	12	10	8	6
Using the command line	8	8	6	4
Installing/optimizing Windows	10	8	6	4
Using Windows 2000	6	6	4	2
Using Windows XP	6	6	4	2
Configuring NTFS permissions	6	4	3	2
Configuring a wireless network	6	5	3	2
Configuring a software firewall	6	4	2	1
Installing a sound card	2	2	1	0
Using operating system diagnostic tools	8	8	6	4
Using a volt-ohm meter (VOM)	4	3	2	1

Great! You now have a good feel for the topics you need to study. Now you need to determine the total study time. First, add up the numbers you've circled. Then add the result to the number from the following table that corresponds to your experience. The grand total is the number of hours you should study to be ready for the exams.

If you have this much direct, professional experience . . .	Add this number of hours to your study time
0	50
Up to 6 months	30
6 to 12 months	10
More than 12 months	0

A total neophyte usually needs around 200 hours of study time. An experienced technician shouldn't need more than 40 hours.

The total number of hours for you to study is _____.

Step 2 Go to the Computing Technology Industry Association (CompTIA) Web site and download a copy of the domains for both the CompTIA A+ Essentials and the CompTIA A+ 220-602 (IT Technician) exams. As of this writing, you can find them at <http://certification.comptia.org/resources/objectives.aspx>; you'll have to fill out a short form (requiring your name, e-mail address, country of residence, and how soon you'll be testing) before you can view the objectives. Bear in mind, however, that CompTIA changes its Web site more often than TV networks invent new reality shows, so be prepared to poke around if necessary! Compare the circled areas on the preceding form to the CompTIA A+ domains. Note that any single topic on the form will cover more than one domain on the CompTIA A+ exams. Circle the domains that you think parallel the weak areas you circled on the form, and don't be afraid to add or remove circles after you've seen the CompTIA A+ domains in detail.

✓ **Hint**

If you are going to focus on one of the specialized paths for your CompTIA A+ certification—either the CompTIA A+ 220-603 exam (Help Desk Technician) or the CompTIA A+ 220-604 exam (Depot Technician)—you'll want to download the objectives for these domains.

Follow the methodology outlined in Step 2 (circle the domains that you think parallel the weak areas you circled on the form) and concentrate on these domains as laid out in the objectives for the specialized exams.

Step 3 Now that you know what topics are most important to you and how much time they'll take, you need to develop your study plan. Take the amount of time you've set aside and determine how many days you have to prepare. Consider work, holidays, weekends, and anything else that will affect your study time. If you're in an instructor-led course, then this part is easy—just use the end of the course! Then break down your textbook into manageable chunks. Again, if you're in a course, then your instructor will already have done this for you. You now have your deadline—the day you'll say, "I'm ready to take the exams!"

Step 4 Go online and schedule your exams with either Thomson Prometric (www.prometric.com) or Pearson VUE (www.vue.com). You'll almost certainly need to make a phone call to do this. Make sure you have both a method of payment (credit cards are preferred) and some form of identification when you call. In the United States you need your Social Security number to schedule CompTIA exams. It's very important that you schedule your exams now—setting a test date early in the process will help motivate you to study, and keep you from procrastinating!

✓ **Cross-Reference**

For details about taking the CompTIA A+ tests, go to the CompTIA Web site (www.comptia.org).



Lab Exercise 1.02: Other Certifications

CompTIA A+ certification may be your first certification, but it certainly should not be your last! The information technology (IT) industry considers obtaining certifications an ongoing process, one that continues as long as you're working in the IT field. You need to appreciate how the CompTIA A+ certification leads into other certifications.

Learning Objectives

This lab helps you learn about the various IT certifications that are available, and how they fit with both your skills and aptitude.

At the end of this lab, you'll be able to

- Understand some of the more common certifications that follow the CompTIA A+ certification
- Plan in what order you might attain those certifications

Lab Materials and Setup

The materials you need for this lab are

- A PC with Internet access

Getting Down to Business

It's time to jump onto the Internet and do a little research! You'll tour some of the more popular IT certifications and see how CompTIA A+ helps you gain these more advanced certifications. While you're at it, review how CompTIA has expanded the A+ certification. Additional exams have been added to further validate the specialized skills required of Help Desk Technicians and Depot Technicians.

✓ Cross-Reference

To review the domains of each of the four CompTIA A+ exams, refer to "The Basic Exam Structure" in Chapter 1 of *Mike Meyers' A+ Guide to Managing and Troubleshooting PCs*.

Step 1 Fire up a Web browser and go to the CompTIA Web site (www.comptia.org). Look at the three tracks offered to complete the CompTIA A+ certification. All three tracks require the CompTIA A+ Essentials exam. Many candidates choose the primary track, the CompTIA A+ 220-602 exam (IT Technician). The two secondary tracks will help the candidate to specialize their CompTIA A+ certification to the technical requirements of their job. You would take the Essentials exam and then follow with either the CompTIA

A+ 220-603 exam (Help Desk Technician) or the CompTIA A+ 220-604 exam (Depot Technician) to become certified. Examine the domains (objectives) for each path and develop a plan to meet your goals.

✓ **Hint**

The laboratory exercises contained within this lab manual cover all the domains of the four CompTIA A+ exams. You may want to allocate more time for review of the labs covering operating systems if you decide to take the CompTIA A+ 220-603 exam (Help Desk Technician). If you opt for the CompTIA A+ 220-604 exam (Depot Technician), you will want to maximize the time you spend working through the labs covering personal computer components. Either way, don't skimp on exploring the lab exercises for all the chapters.

CompTIA also offers additional certifications related to the IT field. Take some time to research the Network+, Server+, and Security+ certifications. Many schools strongly recommend Network+ as the next certification after CompTIA A+ certification. Why do you think they might do that?

Step 2 Head over to the Microsoft Certifications Overview site at www.microsoft.com/mcp/. What are some of the Microsoft certifications shown?

Research the Microsoft Certified Professional (MCP), Microsoft Certified Desktop Support Technician (MCDST), Microsoft Certified Systems Administrator (MCSA), and Microsoft Certified Systems Engineer (MCSE) certifications. What, in your opinion, would be the most natural order for you to achieve these certifications (that is, which one would you take first, second, third)? Does the CompTIA A+ certification come into play in here?

Step 3 Now go to the Cisco Web site (www.cisco.com), and research the Cisco Certified Network Associate (CCNA), Cisco Certified Network Professional (CCNP), and Cisco Certified Internetwork Expert (CCIE) certifications. Compare the CCNA to the Network+. How are they different?

Step 4 Now that you've seen the more common certifications that follow the CompTIA A+, chart out your next three certifications and explain why you chose them.



TIMES WILL VARY

Lab Exercise 1.03: Gathering Equipment

Although it's theoretically possible to obtain your CompTIA A+ certification by doing nothing but reading books, you'll be far better prepared for the real world if you get your hands on some real equipment so that you can practice. You also need some tools so you can take things apart—and put them back together. Finally, you'll need some operating system software, in particular Windows 2000 and Windows

XP. If you're taking a course, all of this equipment should be provided to you. If not, you could find yourself facing some fairly serious cash outlay trying to buy everything you need!

Learning Objectives

In this lab, you'll discover some rather interesting ways to get inexpensive or free hardware and software. None of these ideas will work every time, but with a little patience you'll be amazed how much you can get for very little!

At the end of this lab, you'll be able to

- Acquire inexpensive or free hardware and software
- Acquire a standard PC technician toolkit

Lab Materials and Setup

The materials you need for this lab are

- A telephone
- Transportation
- A PC with Internet access

Getting Down to Business

Most of the objectives on the CompTIA A+ exams don't require state-of-the-art hardware. If you're willing to use systems that are a few years old, you can get plenty of good hands-on practice with the techniques you need to know to pass the CompTIA A+.

Step 1 Go on a scavenger hunt. Get a list of the smaller "mom and pop" PC repair companies and small PC parts suppliers in your town. Drive to these companies (don't call them) and ask them, "What do you guys do with your broken or obsolete parts?" The vast majority of these stores simply throw the parts away! Ask when they toss stuff and if you can have what they throw away. Most of these companies pay to get rid of equipment and will be glad to give it to you. Oh, and you can forget the big chain stores—they almost never let folks have equipment.

Step 2 Shop the sale bins at the local computer parts stores. You'll always find one or two pieces of equipment at outrageously low prices. Granted, you may end up using a bright pink Barbie keyboard, but if it only costs US\$3, who cares? Don't forget about rebates—you can often get parts for free after rebate! Really!

Step 3 Tell everyone you know that you're looking for PC hardware. Almost every organization will have occasional in-house sales where they sell older (but still good) PCs, printers, and so on to employees. If you can get in on some of these, you'll have some amazing deals come your way!

✓ Hint

You'll often find that older machines still have the Windows 98 or Windows Me operating system software installed. If you come across one of these systems, see if you can work with the seller or donor to get the licensed disc. Working with an older operating system (even DOS) will introduce you to the installation and configuration process. Having an operating system installed will also enable you to verify that the hardware is working.

Step 4 Take one weekend to check out local garage sales. People often sell older PCs at a tiny fraction of their original cost. If you're not afraid to barter a bit, you'll get incredible deals—just watch out for equipment that's simply too old to be worthwhile.

✓ Hint

I avoid PC flea markets. The problem is that these folks know the value of their computer equipment, so it's often hard to find excellent deals.

Step 5 Locate the local PC user groups in your town—almost every town has at least one. Explain your situation to them; you'll usually find someone who's willing to give you a part or two, and you may also find others studying for the CompTIA A+ exams. You may even be able to start or join a study group!

Step 6 Speaking of study groups, try teaming up with as many fellow students as you can to pool cash for parts and to work as a study group. If you're in a course, this is easy—your fellow students are your study group! Have everyone go equipment hunting, using the different methods described to get equipment, and pool the items you find for everyone to use. You might even hold a drawing after you all get certified, to choose who gets to keep the equipment.