



## **IT Essentials: PC Hardware and Software v4.0**

### **Chapter 1 - 16 Detailed Syllabus**

This syllabus for chapters 1 – 16 will include:

1. Hours based on a 70 hour time table: 5 one hour classes per week. Class time includes: lecture, some curriculum, reading, labs, and quiz and exam time. Worksheets and some curriculum readings and labs are assigned as homework.
2. Home work
3. Required labs
4. Hardware/software required for each lab
5. Required worksheets
6. Sections that are typically found difficult by students
7. Lecture pointers
8. Chapter-by-Chapter Summary

Difficulty level: The rating system indicates where the average student will require the most help

**(B)** – Basic material: should require no help from teacher

**(M)** – Moderate material: may require some help from teacher

**(D)** – Difficult material: will require help from teacher

### **Lectures**

The lecture for each chapter should cover all sections in that chapter, but the main focus should be on the “Moderate” and “Difficult” material. I find the following most helpful for the students:

- 1) Summarize and organize the information in each section. This is most helpful when there are a lot of terms and numeric values that the student needs to memorize.
- 2) Diagrams, charts, tables and pictures are a good way to help explain abstract concepts, skills and to organize information.
- 3) If you have time, go deeper into a concept and how it relates to other concepts in computing. This will help broaden the students' understanding. This in turn is helpful when they need to troubleshoot computer problems.
- 4) A projector connected to the instructor's computer with internet access is great for lectures and demonstrations.

### **Labs and Worksheets**

Important instructional information about each lab and worksheet is provided on the next page after each chapter syllabus. Labs should be done in class whereas worksheets can be done as homework. You can also develop labs and worksheets for the sections that do not have any. Cisco's Academy Connection site is a great place for extra instructor resources.

**Remember:** This course is designed to prepare the student for his/her CompTIA A+ certification exam. Just covering the basics will not do it. You and your students need to dig deep into what makes a computer function. It is a necessity to provide for the students the time to explore all of the nuances of computer hardware and software systems.

**NOTE:** Students will need administrator permissions for the majority of the labs that use Windows OS.

## **EXAMS and QUIZZES**

### **Chapter 1 – 16 Quiz**

After the chapters there is an online quiz that the students must complete. The quiz includes questions from all sections in a chapter.

### **Fundamental: Final On-line Exam Chapter 1 - 10**

After chapter 10 there is a final exam that the students must complete. The exam includes questions from all the content covered from chapters 1 – 10, with the exception of Chapter 4.

### **Advanced: Final On-line Exam Chapter 11 - 16**

After chapter 16 there is a final exam that the students must complete. The exam includes questions from all the content covered from chapters 11 – 16.

### **Skills Based Assessment**

I have my students do the skills based assessment at the end of chapter 16. The skills based assessment exam has nine parts that include building a computer, installing an operating system, configuring the network card, installing a printer, sharing files and a printer, and preventive maintenance tasks.

## Timetable Adjustments

Not every academy follows the same timeline for this course. Information is included in the chapter by chapter schedule below, which allows you to easily adjust this 70 hour timetable to your own needs. At the top and middle of each chapter's timetable, you will see the following information: ex. **(4.2 hours) (6% of 70 hours)**. The **(4.2 hours)** indicates the average amount of class time needed to teach the chapter. The **(6% of 70 hours)** is the percentage of total time required for the chapter.

Use this information to help plan your daily activities, and to adjust the timetable to your own academy needs. For example, if your academy runs classes based on a 100 hour timetable, then allow 6 hours (6% of 100 hours) for the chapter. If you use a 50 hour timetable, then allow 3 hours for the chapter. **IMPORTANT:** The percentage of time allotted to each chapter is an average based on years of experience. Dynamics of student ability, hardware and software resources in a classroom should be considered when designing your own schedule.

## Chapter 1: Introduction to the Personal Computer

ITE v4	(4.5 hours) ( 6.4% of 70 hours)
<b>Course Introduction &amp; Introduction to the Personal Computer</b>	<p>Day 1: (1 hour) – Introduction to course, and Chapter 1: section 1.1 (B), 1.2 (B)</p> <ol style="list-style-type: none"> <li>1) Class introduction, handouts, Cisco site demonstration for students: course, exams, and grades.</li> <li>2) This would be a good time to go over section 1.1, talk about A+ certification.</li> <li>3) Have students logon to: <a href="http://www.cisco.com/web/learning/netacad/index.html">www.cisco.com/web/learning/netacad/index.html</a>. They will set up their profile and change their username and password. (IMPORTANT, you will need to setup the students' accounts before this class.)</li> </ol> <p><b>Home work: Chapter sections: 1.1 – 1.2 take notes, Worksheet 1.1.2</b></p> <p>Day 2: (1 hour) - Chapter 1: section 1.3 (M), 1.4.1 (D) to 1.4.4 (D)</p> <ol style="list-style-type: none"> <li>1) Students with little or no computer background will have lot of new information to learn. Break chapter 1 into 3 lectures so students have more time to learn the information.</li> <li>2) Mark in class, Worksheet 1.1.2</li> <li>3) Discuss factors that influence choosing a computer case (1.3.1). Students with little or no computer background in Section 1.3.2 to 1.4.4 will have a lot to learn and memorize. The lecture should focus on the hardware components listed in the curriculum. Include charts, diagrams and pass around parts. Students with little or no knowledge in this area will find this helpful. Also point out that they need to memorize names, terms, characteristics, etc. for: section 1.3.2 (power supply voltages and cable colors), 1.4.1 (motherboard components and form factors), 1.4.2 (CPU socket types), and 1.4.4 (RAM and ROM functions, types).</li> <li>4) After lecture hand out the pencil Lab (Lab skill instructions on next page) if you made them. Students should read over section 1.3 – 1.4.4 and take detailed notes on: names, terms, and characteristic discussed in each section.</li> </ol> <p><b>Home work: Chapter sections: 1.4.1 – 1.4.4 take notes</b></p> <p>Day 3: (1 hour) - Chapter 1: section 1.4.5 (D), 1.4.6 (M), 1.4.7 (M), 1.5 (M)</p> <ol style="list-style-type: none"> <li>1) Continue from the last lecture using the same approach. Students with little or no background in Section 1.4.5 to 1.5 will have a lot to learn and memorize. The lecture should focus on the hardware components and resources listed in the curriculum. Include charts, diagrams and pass around parts. Students with little or no knowledge in this area will find this helpful. Also point out that they need to memorize names, terms and characteristics for: 1.4.5 (different adapters, expansion slots); 1.4.6 (optical media types and drive interface), 1.4.7 (data cables), and 1.5 (ports and cable).</li> <li>2) After the lecture hand out Worksheet 1.4.7. Students should read section 1.4.5 - 1.4.7, 1.5 and take detailed notes: names, terms, and characteristic.</li> </ol> <p><b>Home work: Chapter sections: 1.4.5 – 1.5 take notes, Worksheet 1.4.7</b></p>

- Chapter 1 continued on the next page -

## Chapter 1: Introduction to the Personal Computer continue

ITE v4	(4.5 hours) ( 6.4% of 70 hours)
<b>Course Introduction &amp; Introduction to the Personal Computer</b>	<p>Day 4: (1 hour) - Chapter 1: section 1.6 (B), 1.7 (M), 1.8 (D),</p> <ol style="list-style-type: none"> <li>1) Mark in class, Worksheet 1.4.7</li> <li>2) Continue from the last lecture using the same approach. Students with little or no background in Section 1.6 to 1.8 will have a lot to learn and memorize. The lecture should focus on the hardware components and resources listed in the curriculum. Include charts, diagrams and pass around parts. Students with little or no knowledge in this area will find this helpful. Also point out that they need to memorize names, terms and characteristics for: 1.7 (display types, image resolution factors, figure 2), and 1.8 (IRQ, I/O and DMA information listed in figures 1 – 3) it's helpful to show students where to view IRQ, I/O, and DMA information on a computer.</li> <li>3) After the lecture students should read section 1.6 – 1.8 and take detailed notes: names, terms, and characteristic.</li> </ol> <p><b>Home work: end of chapter quiz, and study for on-line chapter exam.</b></p> <p>Day 5: (0.5 hour) – Chapter 1: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review (go over pencil lab), 20 minutes for chapter 1 quiz.</li> <li>2) <b>Start Chapter 2, see chapter 2 schedule</b></li> </ol>

## Chapter 1: Worksheets and Lab Skills Instruction

No equipment needed for the suggested lab idea below.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 1: Introduction to the Personal Computer</b>			
<b>Worksheets</b>			
1.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
1.1.2	Job Opportunities: Covers sections 1.1.2, research jobs opportunities. Use the internet, magazine or paper.	Basic: Assign as home work.	
1.4.7	Research Computer Components: Covers section 1.2 – 1.4.7, select parts for a customer. Use the internet, magazine or paper.	Moderate: Students may find computer jargon confusing. It would be a good idea to review a computer advertisement or discuss terminology used by an online computer parts store	
<b>Lab skills</b>			
	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
Lab idea	A good pencil/paper lab for this chapter would be to hand out printed diagrams of 2 different motherboards designs and back panel connection ports to the students. Instruct the students to identify as many items as possible. There are a lot of diagrams that can be printed off the internet.	30 min.	Moderate: students may not have had a lot of experience identifying different features on motherboards. Have students work in teams of two with different skill levels, if possible. Assign after the lecture on the second day of classes and do this lab in groups of two or more. Discuss answers with the students the next day.
Lab idea	Another good pencil/paper lab for this chapter would be to have students create charts for each item talked about. List in the chart: item name, what it is used for, how it interacts with other part, characteristics or features for the item.	30 min.	Basic: students can use this paper/pencil lab as a method for taking notes in this chapter. All information should come from the chapter. If you wish to add more topics, students could use the internet to research information.

## Chapter 2: Safe Lab Procedure and Tool Use

ITE v4	(1.5 hours) ( 2.1% of 70 hours)
<b>Safe Lab Procedure and Tool Use</b>	<p>Day 1: (0.5 hour) - Chapter 2: section 2.1 (B), 2.2 (M), 2.3 (B)</p> <ol style="list-style-type: none"> <li>1) Start up a class discussion on safety procedures, equipment and hazards when working with computers. Demonstrate safety equipment that will be used in the lab. The students will find Section 2.2.2 – Software Tools, a little difficulty if they have never used the tool. Inform the students they only need to memorize the name and purpose of the disk management tools for now. Later in the curriculum students will learn to use the tools.</li> <li>2) After the lecture hand out Worksheet 2.2.2 and discuss what the students are searching for. Have students read over section 2.1 – 2.3 and take detailed notes on: names, characteristic of tools and safety issues discussed in each section.</li> </ol> <p><b>Home work: Chapter: sections 2.1 – 2.3 take notes, Worksheet 2.2.2, end of chapter quiz, study for chapter exam</b></p> <p>Day 2: (1 hour) - Chapter 2: Review and exam</p> <ol style="list-style-type: none"> <li>1) Mark in class, Worksheet 2.2.2</li> <li>2) 10 minute review, 20 minutes for chapter 2 exam.</li> <li>3) Explain to students how chapter 2 and 3 labs will be done. Assign lab groups. Demonstrate the “Virtual Desktop.” See lab skill instructions on next page and chapter 3 schedule for suggestions on how to organize and run the labs.</li> </ol> <p><b>Home work: Read over all of chapter 2 and 3 labs</b> (NOTE: Also have the first groups of students, that will do the labs, work with the “Virtual Desktop” located in sections: 3.2, 3.3.3, 3.4, 3.5.2, 3.6.3, 3.7.2, 3.8.2)</p>

## Chapter 2: Worksheets and Lab Skills Instructions

A non-working or working computer could be used for this lab. Note, computers get damaged easily when student are constantly working on them. **Student must use antistatic equipment (strap, bags, pad, etc).**

**Problem:** Chapter 2 lab has students taking apart a computer and chapter 3 labs are about assembling a computer. Most instructors do not have enough computers or room, for students, that they can leave computers laying around as they work through chapters 2 and 3.

**Solution:** Combine chapter 2 lab (2.3.4) and chapter 3 labs (3.2.0, 3.3.3, 3.5.2, 3.6.3, 3.7.2, 3.8.2). Include lab 3.9.2 if using a working computer. Places students into groups (2 students with different skill level) and have them work through all these labs at once. If you have limited supplies move groups of 2 students through these labs during the time you are working on chapters 2, 3 and 4. Time required for this approach is 110 minutes/group.

Difficulty level: Basic – should require no help from teacher

Moderate – may require some help from teacher

Difficult – will require help from teacher

### Chapter 2: Safe Lab Procedure and Tool Use

#### Worksheets

2.0	Worksheet description and materials	Worksheet difficulty
2.2.2	Diagnostic Software: Covers sections 2.2.2, research hard drive diagnostic tools. Use the internet, magazine or paper.	Moderate: Students may not understand terminology used by a manufacturer. Discuss terminology and search terms.

#### Lab skills chapter 2

2.0	Lab materials	Estimated time	Lab difficulty
2.3.4	Computer Disassembly: A working or non-working computer for taking apart and tools listed in the lab. ( <b>Suggestion:</b> since it is very easy to damage a computer when taking apart and re-assembling, have students perform this lab on computers that do not work. This gives them experience in these skills without damaging a working computer.) Students find it helpful if they also replace all the parts to their original state. As students do the lab they can complete the information in lab. Follow the lab instructions for taking apart each component, they are very helpful. It is helpful if the students redo these labs from time-to-time. Student will need the tools listed in the lab and the diagram from the lab suggested in chapter 1.	60 min.	<p>Moderate: The lab is a little difficult if the student has little or no skill sets in this area. You may need to demonstrate how to use the tools. It is helpful to the student if they label components, cables and connections as they take apart the computer. A good addition to this lab would be to have the students draw and label a diagram of a motherboard, items connected to the motherboard (including the orientation of cables) and connection port. Could do this lab in groups of two. Group students with different skill levels. The Virtual Desktop is a great resource the students should work through before doing these labs.</p> <p>Note: Point out that reading and taking notes from the curriculum will provide helpful information for doing the lab.</p> <p>Optional: If time permits have students remove the motherboard in the computer case.</p>

## Chapter 3: Computer Assembly – Step By Step

ITE v4	(5 hours) ( 7.1% of 70 hours)
<b>Computer Assembly – Step By Step</b>	<p>Day 1 - 4: (4 hours) - Chapter 3: section 3.1 (B) - 3.9 (B)</p> <ol style="list-style-type: none"> <li>1) The content is well done and student will have no difficulty reading and taking notes. A short lecture overview of what chapter 3 covers, how students will be organized and what they are to do is all that is needed this week.</li> <li>2) A great paper and pencil activity is to have students diagram, label and specify characteristics for different hardware components: cable, ports, adapter card, connections, etc. This will help student review chapters 2 and 3. It will also provide work for students that are not working on chapter 2 and 3 labs. It also provides a break from reading and taking notes all class.</li> <li>3) Your time should be spent working with students while they are completing chapter 2 and 3 labs. I suggest you set up hardware stations for labs: 2.3.4, 3.2, 3.3.3, 3.5.2, 3.6.3, 3.7.2, 3.8.2; and software stations for lab 3.9.2. Have groups of students rotating through the lab stations. Students that are not working on labs can read and take notes, the suggested paper and pencil activity, and working with the “Virtual Desktop” located in sections: 3.2, 3.3.3, 3.4, 3.5.2, 3.6.3, 3.7.2, 3.8.2.) The labs are very useful in helping students understand the content.</li> <li>4) <b>NOTE:</b> If classroom resources are limited and you can not get these lab completed in the allotted time, consider setting up lab time outside of the regular class time.</li> </ol> <p><b>Home work: Chapter: sections 3.1 – 3.9 take notes; Read chapter 2 and 3 labs, end of chapter quiz, study for chapter exam</b></p> <p>Day 5: (1 hour) - Chapter 3: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 3 exam.</li> <li>2) Students that have not completed chapter 2 and 3 labs can continue with that work. If more time is needed you could use part of the next class for these students.</li> <li>3) Students that have completed all lab sheets can start on chapter 4.</li> </ol> <p><b>Home work: Start Chapter 4, see Chapter 4 schedule: sections 4.1 – 4.2 take notes; Finish all lab reports and hand in next class.</b></p>

### Chapter 3: Worksheets and Lab Skills Instruction

A non-working and a working computer can both be used. Note, computers get damaged easily when student are constantly working on them. **Student must use antistatic equipment (strap, bags, pad, etc).**

If you are doing lab 3.9.2 with a different computer than the rest of the labs, it can be done out of order if the students read over all of section 3.9 before doing the lab.

**Problem:** Chapter 2 and 3 labs have students taking apart and reassembling a computer. Most instructors do not have enough computers or room for this. See chapter 2 above for solution.

Difficulty level: Basic – should require no help from teacher

Moderate – may require some help from teacher

Difficult – will require help from teacher

Chapter 3: Computer Assembly – Step By Step			
Worksheets			
3.0	Worksheet description and materials	Worksheet difficulty	
No Worksheets: Instructor will need to make them for this chapter			
Lab skills			
3.0	Lab materials	Estimated time	Lab difficulty
3.2.0	For these 6 labs (Install: Power Supply, Motherboard, Drives, Adapter Cards, Internal Cables, and Complete the Computer Assembly) use a computer that is not needed for other things and tools listed in the labs. Include lab 3.9.2 if using a working computer. <b>(Suggestion:</b> since it is very easy to damage a computer when learning to take apart and putting one together, have students work on computers that do not work. This gives them experience in these skills without damaging a working computer.) As students do the labs, they can fill in the information for each of the 6 labs. Follow the lab instructions for installing each part, they are very helpful. It is very helpful if the students redo these labs from time-to-time.	15 min.	Difficult: All 6 labs can be difficult if student has little or no skill sets in this area. It is helpful to the student if components and connections are labeled on the computer. Also a diagram of how things are connected is helpful. (If students are using the same computer used in lab 2.3.4, and if they made a labeled diagram of the computer, allow students to use the diagram as they rebuild the computer.) <b>The Virtual Desktop labs in this chapter are a great resource the students should work through before doing these labs and for extra practice (note: it should not substitute the real thing.)</b>
3.3.3		35 min.	
3.5.2		15 min.	
3.6.3		15 min.	
3.7.2		15 min.	
3.8.2		15 min.	
3.9.2		30 min.	

## Chapter 4: Basics of Preventive Maintenance and Troubleshooting

<b>ITE v4</b>	<b>(1.5 hours) ( 2.1% of 70 hours)</b>
<b>Basics of Preventive Maintenance and Troubleshooting</b>	Day 1: (1 hour) - Chapter 4: section 4.1 (B) – 4.2 (B) 1) The information in the sections is well explained. At this point in the course students are just learning about the troubleshooting process. Later they will put these skills to use. A short lecture that overviews the troubleshooting process is all that is required. 2) After the lecture students should read over section 4.1 – 4.2 and take detailed notes. <b>Home work: Chapter: sections 4.1 – 4.2 take notes, end of chapter quiz</b>
	Day 2: (0.5 hour) – Chapter 4: Review 1) 10 minute review. <b>2) Start Chapter 5, see chapter 5 schedule</b>

### Chapter 4: Worksheets and Lab Skills Instruction

No equipment required.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 4: Basics of Preventive Maintenance and Troubleshooting</b>			
<b>Worksheets</b>			
4.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
	No Worksheets: Instructor will need to make them for this chapter		
<b>Lab skills</b>			
4.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
	No Labs: I suggest not adding any more labs. Use this time to allow all students to complete chapter 3 labs.		

## Chapter 5: Fundamental Operating Systems

ITE v4	(5 hours) ( 7.1% of 70 hours)
<b>Fundamental Operating Systems</b>	<p>Day 1: (0.5 hour) - Chapter 5: section 5.1 (D), 5.2 (B), 5.3 (M)</p> <ol style="list-style-type: none"> <li>1) The content in each section ranges from basic to difficult. Use your time well and create short lectures for each day as your time will be needed for helping students with labs.</li> <li>2) For these sections focus your lecture on the following: 5.1.2 (go over and explain bold face terms from this page, give examples of what is stored in the different memory locations, and make up a take-home lab so students can practice DOS commands); 5.3.2 (make sure student know to memorize the information in figure 1).</li> <li>3) After the lecture, explain to students how chapter 5 labs will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the labs. The labs are very useful in helping students understand this chapter.</li> <li>4) Your time should be spent working with students while they are completing chapter 5 labs. I suggest you set up OS installation stations for lab: 5.4.2; and OS configuration stations for labs: 5.4.5, 5.5.1, 5.5.4, 5.6.2, 5.6.3. Have groups of students rotating through the lab stations. Students that are not working on labs can read and take notes, and work on worksheets.</li> <li>5) <b>NOTE:</b> If classroom resources are limited and you cannot get these labs completed in the allotted time, students can finish off the labs while doing chapter 6 or consider setting up lab time outside of the regular class time.</li> </ol> <p><b>Home work: Chapter: sections 5.1 – 5.3 take notes; Worksheets 5.2.2, 5.3.2; Chapter 5 labs</b></p> <p>Day 2: (1 hour) - Chapter 5: section 5.4.1 -5.4.4 (B, M,D)</p> <ol style="list-style-type: none"> <li>1) Take in worksheets for marking. Before allowing students to work on labs, give a short lecture that focuses on the following pages: 5.4.1 (resources you can use to help explain the terms include: a hard drive that is disassembled, figure 1 in 5.4.1, discuss and show how the hard drive on your computer is partitioned via “Disk Management”, should spend time describing how a formatted hard drive is organized. I find using diagrams very helpful.); 5.4.2 (compare FAT32 and NTFS)</li> <li>2) After the lecture send groups to work on labs, and students not doing labs can read section 5.4 and take detailed notes.</li> </ol> <p><b>Home work: Chapter: sections 5.4 take notes; Chapter 5 labs</b></p> <p>Day 3: (1 hour) - Chapter 5: section 5.4.5 – 5.4.9 (B, M,D)</p> <ol style="list-style-type: none"> <li>1) Before allowing students to work on labs, give a short lecture that focuses on the following pages: 5.4.5 (discuss and show the “Device Management” on your computer); 5.4.7 (go over the BOOT sequence used by Windows XP – students need to memorize this).</li> <li>2) After the lecture hand out Worksheet 5.4.9, send groups to work on labs, and students not doing labs can read section 5.4 and take detailed notes.</li> </ol> <p><b>Home work: Chapter: sections 5.4 take notes; Worksheets 5.4.9; Chapter 5 labs</b></p>

## Chapter 5: Fundamental Operating Systems Continued

ITE v4	continued (5 hours) ( 7.1% of 70 hours)
<b>Fundamental Operating Systems</b>	<p>Day 4: (1 hour) - Chapter 5: section 5.5 (B, M)</p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class. Before allowing students to work on labs, give a short lecture that focuses on the following pages: 5.5.3 (demonstrate and describe the tools listed in the section); 5.5.5 (make sure students know the different upgrade paths to Windows XP and the path to “winnt32”– students need to memorize this).</li> <li>2) After the lecture send groups to work on labs, and students not doing labs can read section 5.5 and take detailed notes.</li> </ol> <p><b>Home work: Chapter: sections 5.5 take notes; Chapter 5 labs</b></p> <p>Day 5: (1 hour) - Chapter 5: section 5.6 (M), 5.7 (M)</p> <ol style="list-style-type: none"> <li>1) Before allowing students to work on labs, give a short lecture that focuses on the following pages: 5.6.2 (demonstrate and describe CHKDSK and Restore Point); 5.6.3 (students think this section is easy but if you give them questions on how to recover from backups they have difficulty. Explain these and give a few questions to test the students - students need to memorize backup methods); 5.7 (discuss open and close ended question techniques, and troubleshooting.)</li> <li>2) After the lecture send groups to work on labs, and students not doing labs can read section 5.6 – 5.7 and take detailed notes.</li> </ol> <p><b>Home work: Chapter: sections 5.6 – 5.7 take notes; Chapter 5 labs, end of chapter quiz, and study for on-line exam.</b></p> <p>Day 6: (0.5 hour) – Chapter 5: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 5 exam.</li> <li>2) <b>Start Chapter 6, see chapter 6 schedule</b></li> </ol>

## Chapter 5: Worksheets and Lab Skills Instruction

For all these labs you will need a computer for installing Windows XP Pro and for performing configurations. If you have 2 computers one could be for the installation while the other computer is used for the other labs. This will speed things up in the lab. Minimum hardware: high-end Pentium II, 256 RAM (512 better), 3 GB hard drive, and CD drive. A faster computer will help reduce the time required to complete the labs.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 5: Fundamental Operating Systems</b>			
<b>Worksheets</b>			
5.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
5.2.2	NOS Certifications and Jobs: Covers sections 5.2.2, research NOS certifications and jobs. Use the internet, magazine or paper.	Basic: Assign as home work.	
5.3.2	Upgrade Hardware Components: Covers sections 5.3.2, select upgrade parts for a customer. Use the internet, magazine or paper.	Moderate: Students may find computer jargon confusing. It would be a good idea to go over a computer advertisement or discuss terminology used by an online computer parts store	
5.4.9	Answer NTFS and FAT32 Questions: Covers sections 5.4.1– 5.4.9, compare and contrast FAT and NTFS. Use curriculum and internet to find answers.	Moderate: Students may find some of the terms new. Discuss strategies for researching for the answers.	
<b>Lab skills</b>			
5.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
5.4.2	Install Windows XP: Windows XP Pro CD and a computer to install XP on.	60 min.	Moderate: The lab is well done. Students may need your help if the installation does not go well.
5.4.5	Create Accounts and Check For Updates: Computer running Windows XP Pro.	10 min.	Basic: The lab is well done and easy to follow.
5.5.1	Run Commands: Computer running Windows XP Pro.	5 min.	Basic: The lab is well done and easy to follow.
5.5.4	Install Third-Party Software: Computer running Windows XP Pro and the install CD.	10 min.	Basic: The lab is well done and easy to follow.
5.6.2	Restore Points: Computer running Windows XP Pro and the install CD.	15 min.	Moderate: The lab is well done. Students may need your help if the process does not go well.
5.6.3	Windows Registry Backup and Recovery: Computer running Windows XP Pro.	20 min.	Moderate: The lab is well done. Students may need your help if the process does not go well.

## Chapter 6: Fundamental Laptops and Portable Devices

ITE v4	(3 hours) ( 4.2% of 70 hours)
<b>Fundamental Laptops and Portable Devices</b>	<p><b>NOTE:</b> If classroom resources are limited and you can not get chapter 5 labs completed in the allotted time, students can finish off the labs while doing chapter 6.</p> <p>Day 1: (0.5 hour) - Chapter 6: section 6.1 <b>(B)</b>, 6.2 <b>(B)</b>, 6.3 <b>(M)</b></p> <ol style="list-style-type: none"> <li>1) These sections are well done. Focus the lecture on: Introduce chapter 6; 6.2 (point out the “Virtual Laptop” in 6.2.1, 6.2.2, 6.2.3: If you do not have any laptops this is a good way for student to explore laptop features); 6.3.1 (discuss laptop form factor – figure 2); 6.3.4 (go over and discuss figures 1, 2, 3; if you have PC cards pass them around.)</li> <li>2) After the lecture hand out Worksheet 6.1.2, 6.2.3.</li> </ol> <p><b>Home work: Chapter: sections 6.1 – 6.3 take notes; Worksheets 6.1.2, 6.2.3; Chapter 5 labs if more time is needed</b></p> <p>Day 2: (1 hour) - Chapter 6: section 6.4 <b>(M)</b></p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class. The information in this section is well done, however most students have no experience with the concepts in 6.4.1 or the skills in 6.4.2. Focus the lecture on: 6.4.1 (discuss and demonstrate ACPI standards used by laptops); 6.4.2 (point out the “Virtual Laptop”) If you do not have any laptops this is a good way for student to explore laptop features. NOTE: if you do have any laptops, if possible allow student to do the activities from section 6.4.2)</li> <li>2) After the lecture hand out Worksheet 6.3.4, 6.4.1. If more time is needed for chapter 5 labs allow students to work on those labs.</li> </ol> <p><b>Home work: Chapter: sections 6.4 take notes; Worksheets 6.3.4, 6.4.1; Chapter 5 labs if more time is needed</b></p> <p>Day 3: (1 hour) - Chapter 6: section 6.5 <b>(B)</b>, 6.6 <b>(B)</b>, 6.7 <b>(M)</b></p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class.</li> <li>2) The information in these sections is well done, focus the lecture on: 6.7 (discuss open and close ended question techniques, and troubleshooting laptops.)</li> <li>3) After the lecture hand out Worksheet 6.7.2. If more time needed for chapter 5 labs allow students to work on those labs.</li> </ol> <p><b>Home work: Chapter: sections 6.4 take notes; Worksheets 6.7.2; Chapter 5 labs if more time is needed, end of chapter quiz, and study for on-line exam.</b></p> <p>Day 4: (0.5 hour) – Chapter 6: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 6 exam.</li> <li>2) <b>Start Chapter 7, see chapter 7 schedule</b></li> </ol>

## Chapter 6: Worksheets and Lab Skills Instruction

A real laptop, if you have any.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 6: Fundamental Laptops and Portable Devices</b>			
<b>Worksheets</b>			
6.0	<b>Worksheet description and materials</b>		<b>Worksheet difficulty</b>
6.1.2	Research Laptops, Smart Phones, and PDAs: Covers sections 6.1.2, research for portable equipment. Use the internet, local store or paper.		Basic: Assign as home work.
6.2.3	Complete Docking Stations True or False Questions: Covers sections 6.2.1 – 6.2.3, questions about laptops.		Basic: Assign as home work.
6.3.4	Answer Laptop Expansion Questions: Covers sections 6.3 – 6.4, questions about laptops and desktops.		Basic: Assign as home work.
6.4.1	Match ACPI Standards: Covers sections 6.4.1, questions about power configurations		Basic: Assign as home work.
6.7.2	Research Laptop Problems: Covers sections 6.7.2, questions about laptop problem and troubleshooting resources.		Basic: Assign as home work.
<b>Lab skills</b>			
6.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
	<b>The Virtual Laptop labs in this chapter are a great resource the students should work through for extra practice (note: if you have a real laptop, let students complete as many of the virtual labs as possible on the real laptop.)</b>		

## Chapter 7: Fundamental Printers and Scanners

ITE v4	(4 hours) ( 5.7% of 70 hours)
<b>Fundamental Printers and Scanners</b>	<p>Day 1: (0.5 hour) - Chapter 7: section 7.1.1 (B), 7.1.2 (M),</p> <p>1) These sections are well done. Focus lecture on: Introduction of chapter; 7.1.2 (go over connection type and characteristics)</p> <p><b>Home work: Chapter: sections 7.1.1 – 7.1.2 take notes;</b></p>
	<p>Day 2: (1 hour) - Chapter 7: section 7.1.3 (M), 7.1.4 – 7.1.7(B)</p> <p>1) The information in these 2 sections is well done but needs diagrams. Go into more detail for section: 7.1.3 (locate some good diagrams of laser printers. Discuss diagram in great detail. Have a laser printer for showing students the parts. Also review the bold terms in the rest of the section). A great paper and pencil lab is to have the students label and describe the printing process used by different printers. You will need diagrams of different printers.</p> <p>2) After the lecture explain to students how chapter 7 lab will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the lab. The lab is very useful in helping students understand this chapter.</p> <p>3) Your time should be spent working with students while they are completing chapter 7 lab.</p> <p>4) <b>NOTE:</b> If classroom resources are limited and you can not get these labs completed in the allotted time, students can finish off the labs while doing chapter 8 or consider setting up lab time outside of the regular class time.</p> <p><b>Home work: Chapter: sections 7.1 take notes; Chapter 7 lab</b></p>
	<p>Day 3: (1 hour) - Chapter 7: section 7.2 (M), 7.3 (B)</p> <p>1) Before allowing students to work on the lab, give a short lecture that focuses on the following sections: 7.2.3 (demonstrate and describe how to install a printer/scanner drive and update printer firmware.); 7.2.6 (demonstrate and describe how to print a test page) 7.2.7 (demonstrate and describe how to share a printer) Student will do labs to practice these skills later in the course.</p> <p>2) After the lecture send groups to work on the lab, and students not doing the lab can read section 7.2, 7.3 and take detailed notes.</p> <p><b>Home work: Chapter: sections 7.2, 7.3 take notes; Chapter 7 lab</b></p>
	<p>Day 4: (1 hour) – Chapter 7: section 7.4 (B), 7.5 (B), 7.6 (M),</p> <p>1) Before allowing students to work on labs, give a short lecture that focuses on the following section: 7.6 (discuss open and close ended question techniques, and troubleshooting printers and scanners.)</p> <p>2) After the lecture send groups to work on labs, and students not doing labs can read section 7.4 – 7.6 and take details notes.</p> <p><b>Home work: end of chapter quiz, and study for on-line exam.</b></p>
	<p>Day 5: (0.5 hour) – Chapter 7: Review and exam</p> <p>1) 10 minute review, 20 minutes for chapter 7 exam.</p> <p>2) <b>Start Chapter 8, see chapter 8 schedule</b></p>

## Chapter 7: Worksheets and Lab Skills Instruction

Lab asks for an “All-in-one-device” but this could be replaced with a printer or scanner.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 7: Fundamental Printers and Scanners</b>			
<b>Worksheets</b>			
7.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
	No Worksheets: Instructor will need to make them for this section.		
<b>Lab skills</b>			
7.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
7.4.2	Install All-in-One Device and Software: A computer running Windows XP Professional and a connection to the internet.	20 min.	Moderate: The lab is well done. Students may need your help locating driver updates.

## Chapter 8: Fundamental Networks

ITE v4	(6 hours) ( 8.6% of 70 hours)
<b>Fundamental Networks</b>	<p>Day 1: (0.5 hour) - Chapter 8: section 8.1 (B), 8.2 (B),</p> <p>1) These sections are well done. Focus lecture on: Introduction of chapter – give a broad overview of what is covered.</p> <p><b>Home work: Chapter: sections 8.1 – 8.2 take notes; Read over Chapter 8 lab</b></p> <p>Day 2: (1 hour) - Chapter 8: section 8.3 (D), 8.4 (M)</p> <p>1) The information in the 2 sections is well done but there are a few complex concepts that you need to focus on: 8.3.2 (describe the IP classes, how they are created, give several examples on subnet mask, and hand out worksheet 8.3.2 and do it in class. I suggest you make up another worksheet for homework); 8.3.3 (it would be helpful to describe what and how DHCP works); 8.3.4 (make sure the students memorize the protocols and what they do, see figure 1 and 2); 8.3.5 (demonstrate “ping” with command line switches, students need to know these and what information they provide); 8.4 (for this section pass around or show students the devices and cables as you give a quick overview of them.)</p> <p>2) After the lecture explain to students how chapter 8 lab will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the lab. The lab is very useful in helping students understand this chapter.</p> <p>3) Your time should be spent working with students while they complete chapter 8 lab.</p> <p>4) <b>NOTE:</b> If classroom resources are limited and you can not get these labs completed in the allotted time, students could do this lab as homework or consider setting up lab time outside of the regular class time.</p> <p><b>Home work: Chapter: sections 8.3, 8.4 take notes; Worksheets 8.3.2; Chapter 8 lab</b></p> <p>Day 3, 4: (2 hours) - Chapter 8: section 8.5 (M), 8.6 (B) 8.7 (D), 8.8 (D)</p> <p>1) Mark worksheets in class. Before allowing students to work on the lab, you need to give a longer than normal lecture that focuses on the following sections: 8.5 (the information is well done but it is helpful to show diagrams of the different topologies as you describe them, also explain the 3 LAN architectures, ask students how the lab in the classroom is set up, maybe a visit to the wire closet is a good fieldtrip); 8.7 (review the various Ethernet and wireless standards, students need to memorize their characteristics, a good worksheet would be to have the student make a chart for them); 8.8 (talk about the various OSI and TCP/IP layers and protocols that work in them, diagrams help here a lot, come up with an example that shows how the layers work, ex. What does each layer do as an e-mail is sent to another computer (this is more than what the students need to know but it helps them gain a better understanding of why we use these models); Make up worksheets for these sections to make sure students are recording details from each section.</p> <p>2) After the lecture, hand out worksheets you made, send groups to work on the lab, and students not doing the lab can read section 8.5 – 8.8 and take detailed notes.</p> <p><b>Home work: Chapter: sections 8.5, 8.6, 8.7, 8.8 take notes; Worksheets you made; Chapter 8 lab</b></p>

## Chapter 8: Fundamental Networks Continued

ITE v4	(6 hours) ( 8.6% of 70 hours)
<b>Fundamental Networks</b>	<p>Day 5: (1 hour) – Chapter 8: section 8.9 (B), 8.10 (M), 8.11 (B),</p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class. Before allowing students to work on labs, give a short lecture that focuses on the following section: 8.10.1 (discuss WAN connection types, figure 1 and 2 are helpful for this)</li> <li>2) After the lecture, hand out worksheets 8.9.1, 8.10.3, send groups to work on the lab, and students not doing the lab can read section 8.9 – 8.11 and take detailed notes.</li> </ol> <p><b>Home work: Chapter: sections 8.9 - 8.11 take notes; Worksheets 8.9.1, 8.10.3; Chapter 8 lab</b></p> <p>Day 6: (1 hour) – Chapter 8: section 8.12 (M)</p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class. The information in these sections is well done, focus the lecture on: 8.12 (discuss open and close ended question techniques, and troubleshooting network.)</li> <li>2) After the lecture hand out Worksheet 8.12.2. Have students read over the section and do the worksheet. Mark worksheet before the end of the class</li> </ol> <p><b>Home work: end of chapter quiz, and study for on-line exam.</b></p> <p>Day 7: (0.5 hour) – Chapter 8: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 8 exam.</li> <li>2) <b>Start Chapter 9, see chapter 9 schedule</b></li> </ol>

## Chapter 8: Worksheets and Lab Skills Instruction

For the lab you will need a computer with Windows 2000/XP Pro to perform configurations.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 8: Fundamental Networks</b>			
<b>Worksheets</b>			
8.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
8.3.2	Identify IP Address Classes: Covers sections 8.3.2, make up several IP and subnet mask questions. Don't make them overly difficult.	Moderate - Difficult: Students will find this difficult if you go beyond default subnet masks as they have no background.	
8.9.1	Internet Search for NIC Drivers: Covers sections 8.9.1. Use the internet to search for drivers.	Basic: Students should have enough experience searching manufacturers' websites by now. Assign as home work.	
8.10.3	Answer Broadband Questions: Covers sections 8.10.1 – 8.10.3, short answer question from curriculum.	Basic: Assign as home work.	
8.12.2	Diagnose a Network Problem: Covers sections 8.12 – 8.12.2, role play. Students practice communication and troubleshooting skill.	Moderate: Several chapters have assignments like this one. Spending time explaining and demonstrating how to do the activity as it can be confusing. This will also save you time when the next one of these assignments come along.	
<b>Lab skills</b>			
8.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
8.9.2	Configure an Ethernet NIC to use DHCP: A computer hooked up to a network or router with a DHCP server. An Ethernet cable.	10 min.	Basic: The lab is well done. If the student's computer is hooked up to the internet (via Shaw, Telus or other ISP) they will have DHCP set up already. Students should go through the steps in this lab to make sure they know the skills. Would be a good idea to do this lab with different OSs. This lab could also be assigned as homework.

## Chapter 9: Fundamental Security

ITE v4	(3 hours) ( 4.3% of 70 hours)
<b>Fundamental Security</b>	<p><b>NOTE:</b> If classroom resources are limited and you can not get chapter 8 labs completed in the allotted time, students can finish off the labs while doing chapter 9.</p> <p>Day 1: (0.5 hour) - Chapter 9: section 9.1 <b>(B)</b></p> <p>1) This section is well done. Focus lecture on: Introduction of chapter – give a broad overview of what is covered. Hand out worksheet 9.1</p> <p><b>Home work: Chapter: sections 9.1 take notes; Worksheets 9.1</b></p> <p>Day 2: (1 hour) - Chapter 9: section 9.2 <b>(M)</b>, 9.3 <b>(M)</b>, 9.4 <b>(B)</b></p> <p>1) Mark worksheets in class.</p> <p>2) The information in this section is well done and most students have a basic if not good understanding of the topics. Focus the lecture on clearing up any misconceptions on: 9.2 (definition of different viruses and security threats, DoS, and TCP/IP attacks); 9.3 (get students talking about security policy – physical, software and wireless); 9.4 (talk about the importance of restore points when doing updates.)</p> <p>3) After the lecture hand out Worksheets 9.2.1, 9.4.2</p> <p><b>Home work: Chapter: sections 9.2, 9.3, 9.4 take notes; Worksheets 9.2.1, 9.4.2</b></p> <p>Day 3: (1 hour) – Chapter 9: section 9.5 <b>(M)</b></p> <p>1) Mark worksheets in class.</p> <p>2) The information in this section is well done, focus the lecture on: 9.5 (discuss open and close ended question techniques, and troubleshooting security.)</p> <p>3) After the lecture hand out Worksheet 9.5.2. Have student read over the section and do the worksheet. Mark worksheet before the end of the class</p> <p><b>Home work: end of chapter quiz, and study for on-line exam.</b></p> <p>Day 4: (0.5 hour) – Chapter 9: Review</p> <p>1) 10 minute review.</p> <p>2) <b>Start Chapter 10, see chapter 10 schedule</b></p>

## Chapter 9: Worksheets and Lab Skills Instruction

Computer running Windows XP with internet access.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 9: Fundamental Security</b>			
<b>Worksheets</b>			
9.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
9.1	Security Attacks: Covers sections 9.1.0, research computer security attacks. Use the internet, news paper or magazine.	Basic: Students should have enough experience searching the websites. Assign as home work.	
9.2.1	Third-Party Anti-Virus Software: Covers sections 9.2.1 but 9.2.1 – 9.2.4 can be used as background information. Research and select Anti-Virus Software. Use the internet, and local store.	Basic: Assign as home work.	
9.4.2	Operating System Updates: Covers sections 9.4.2, collect information on how computer is configured to handle updates.	Basic - Moderate: Students that have never done updates on Windows OS before will not know how to gather the information. Add a few command sequences to the worksheet or put them on the whiteboard.	
9.5.2	Gather Information from the Customer: Covers sections 9.5 – 9.5.2, role play. Students practice communication and troubleshooting skill.	Moderate: Students should be familiar with this type of assignment. The difficult part will be solving the problem.	
<b>Lab skills</b>			
9.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
	No Labs: I suggest not adding any more labs. Chapter 1 – 10 Review is coming up soon. Students have enough work to do to get ready for the skill exam and knowledge exam.		

## Chapter 10: Communication Skills

ITE v4	(2.5 hours) ( 3.6% of 70 hours)
<b>Communication Skills &amp; Discuss Chapter 1 – 10 Exams</b>	<p>Day 1: (0.5 hour) - Chapter 10: section 10.1 (B), 10.2 (B), 10.3 (B), 10.4 (B)</p> <p>1) This section is well done. Focus lecture on: Introduction of chapter – give a broad overview of communication skills and what that means. Hand out worksheet 10.1</p> <p><b>Home work: Chapter: sections 10.1, 10.2, 10.3, 10.4 take notes; Worksheets 10.1</b></p> <p>Day 2: (1 hour) - Chapter 10: Practice communication skills</p> <p>1) Mark worksheets in class.</p> <p>2) Today’s class will be a little different. Put together activities (see activities in section 10.2.2, 10.2.3, 10.3.) Put students in groups of 2, hand out one activity at a time, allow group 10 minutes per activity, discuss as a class after each activity.</p> <p><b>Home work: Study for chapter exam</b></p> <p>Day 3: (1 hour) – Chapter 10: Review and exam</p> <p>1) 10 minute review, 20 minutes for chapter 9 -10 exam.</p>

## Chapter 10: Worksheets and Lab Skills Instruction

Computer running Windows XP and internet access.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 10: Communication Skills</b>			
<b>Worksheets</b>			
10.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
10.1	Technician Resources: Covers sections 10.1, research online resources. Use the internet.	Basic: Students that are not familiar with locating online resources may need a little help.	
<b>Class Activities</b>			
10.2.2	Demonstrate and discuss positive ways to say negative things	Basic: Class activity and discussion. Have a list of items to discuss. Have students role play with each other.	
10.2.3	Identify and discuss managing difficult customers	Basic: Class activity and discussion. Have a list of items to discuss. Have students role play with each other.	
10.3	Discuss privacy issues	Basic: Class activity and discussion. Have a list of items to discuss. Have students role play with each other.	
<b>Lab skills</b>			
10.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
	No Labs: I suggest not adding any more labs. Chapter 1 – 10 Review is coming up soon. Students have enough work to do to get ready for the skill exam and knowledge exam.		

## Chapter 1 - 10: Review and Exam Schedule

<b>ITE v4</b>	<b>(5 hours) ( 7.1% of 70 hours)</b>
<b>Review &amp; Exam Week</b>	<p>Day 1 - 4: (4 hours) - Chapter 1 – 10 Review</p> <ol style="list-style-type: none"> <li>1) Over the next 4 days the students can be either reviewing chapter content or labs. Rotate students through your labs.</li> <li>2) Review resources include but not limited to: student notes, worksheets, practice skills and redo chapter 1 – 10 quizzes to help them study. If you allow students to redo any of the chapter exams make sure you have recorded their grade from their first try before re-activating the exam.</li> </ol> <p>Day 5: (1 hour) - Chapter 1 – 10 Online Final Exam</p> <ol style="list-style-type: none"> <li>1) The final chapter 1 – 10 exam is online and located at the Cisco site. You will need to activate the exam. Students can take this exam twice if you wish. See instruction below for an example of why you might want to do this.</li> </ol>

## Chapter 1 - 10: Exams

<b>ITE v4</b>	<b>An Examination Method</b> (only a suggestion)	
<b>On-Line Final Exam</b>	<b>Give the students 2 tries at the On-line Chapter 1 - 10 Exam if needed</b>	<p><b>First try: The grade you get is used for your school mark</b></p> <p><b>Last try: If you did not get 73% or better on your first try you will need 80% on this try. These students come in before, after or at lunch break to take their second try.</b></p>

## Chapter 11: Advanced Personal Computers

ITE v4	(4.5 hours) (6.4% of 70 hours)
<b>Advanced Personal Computer</b>	<p>Day 1 - 3: (3 hours) - Chapter 11: section 11.1 (B) – 11.5 (B)</p> <ol style="list-style-type: none"> <li>1) The information in these sections is well done but there are a few complex concepts that you need to focus on: Start off with an overview of the chapter then focus on section: 11.3.6 (compare and contrast PATA, SATA and SCSI, use figures 1 – 3 as resources)</li> <li>2) After the lecture explain to students how chapter 11 labs will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the labs.</li> <li>3) Your time should be spent working with student while they complete chapter 11 labs.</li> <li>4) <b>NOTE:</b> If classroom resources are limited and you cannot get these labs completed in the allotted time, students could do lab 11.4.4 as homework or consider setting up lab time outside of the regular class time.</li> </ol> <p><b>Home work: Chapter: sections 11.1 – 11.6 take notes; Worksheets 11.1.1, 11.3.7; Read chapter 11 labs</b></p> <p>Day 4: (1 hour) - Chapter 11: section 11.6 (M)</p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class.</li> <li>2) A short lecture on: 11.6 (discuss open and close ended question techniques, and troubleshooting computers.)</li> <li>3) After the lecture hand out Labs 11.6.3 (Remote Technician Boot Problem). Have student read over the section and do the lab. Mark lab before the end of the class</li> </ol> <p><b>Home work: End of chapter quiz, study for chapter exam</b></p> <p>Day 5: (0.5 hour) – Chapter 11: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 11 exam.</li> <li>2) <b>Start Chapter 12, see chapter 12 schedule</b></li> </ol>

## Chapter 11: Worksheets and Lab Skills Instruction

Computer with Windows XP, which the students can install and configure hardware. **Always use an antistatic wrist strap.**

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 11: Advanced Personal Computers</b>			
<b>Worksheets</b>			
11.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
11.1	Job Opportunities: Covers sections 11.1, research computer related jobs. Use the internet.	Basic: Assign as home work.	
11.3.7	Research Computer Components: Covers sections 11.3.1 – 11.3.7, research computer parts. Use the internet, news paper, and local store.	Moderate: Students should be able to do this assignment but it would be a good idea to discuss the importance of compatibility between components.	
<b>Lab skills</b>			
11.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
11.4.1	Install a NIC: A computer with Windows XP (2000 will also work) and a NIC installed. A second NIC and drivers for the NIC. Screwdriver and anti-static strap and bag/mat.	20 min.	Basic: Instructions are well done. Students have done these skills before but never all together. Students will like this lab and can do in groups.
11.4.3	Install Additional RAM: A computer with Windows XP (2000 will also work) and an empty RAM slot. An addition RAM module. Screwdriver and anti-static strap and bag/mat.	20 min.	Basic: Instructions are well done.
11.4.4	BIOS File Search: A computer with Windows XP (2000 will also work), and internet access.	10 min.	Basic: Instructions are well done. Students can do the lab for home work.
11.4.5	Install, Configure, and Partition a Second Hard Drive: A computer with Windows XP (2000 will also work). A second hard drive that can be reformatted. Screwdriver and anti-static strap and bag/mat.	30 min.	Moderate: Instructions are well done. Students may need help setting hard drive to master and slave.
11.6.3	2x Repair Boot Problem: A computer with Windows XP (2000 will also work) and screwdriver.	20 min.	Moderate: Students should be familiar with this type of lab. The difficult part will be solving the problem.

## Chapter 12: Advanced Operating Systems

ITE v4	(5.5 hours) (8.6% of 70 hours)
<b>Advanced Operating Systems</b>	<p>Day 1: (0.5 hour) - Chapter 12: section 12.1 (B), 12.2 (B), 12.3 (B), 12.4 (B)</p> <p>1) This section is well done. Focus lecture on: Introduction of chapter – give a broad over view each section.</p> <p><b>Home work: Chapter: read chapter labs 12.2.2, 12.2.3, 12.2.4, 12.2.5, 12.4.1, and 12.5.3 (Operating System Problem)</b></p> <p>Day 2 - 5: (4 hours) - Chapter 12: Labs and notes</p> <p>1) Explain to students how chapter 12 labs will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the labs. The labs are very useful in helping students understand this chapter.</p> <p>2) Your time should be spent working with students while they complete chapter 12 labs.</p> <p>3) <b>NOTE:</b> If classroom resources are limited and you can not get these labs completed in the allotted time, students could do lab 12.2.5 as homework or consider setting up lab time outside of the regular class time.</p> <p><b>Home work: Chapter: sections 12.1 – 12.4 take notes; Chapter 12 labs</b></p> <p>Day 6: (1 hour) - Chapter 12: section 12.5 (M)</p> <p>1) A short lecture on: 12.5 (discuss open and close ended question techniques, and troubleshooting operating systems.)</p> <p>2) After the lecture hand out Labs 12.5.3 (Remote Technician Operating System Problem). Have students read over the section and do the lab. Mark lab before the end of the class</p> <p><b>Home work: End of chapter quiz, study for chapter exam</b></p> <p>Day 7: (0.5 hour) – Chapter 12: Review</p> <p>1) 10 minute review.</p> <p>2) <b>Start Chapter 13, see chapter 13 schedule</b></p>

## Chapter 12: Worksheets and Lab Skills Instruction

For all these labs you will need a computer for installing Windows XP Pro and for performing configurations. If you have 2 computers one could be for the installation while the other computer is used for the other labs. This will speed things up in the lab. Minimum hardware: high-end Pentium II, 128 RAM (256 better), 3 GB hard drive, and CD drive. A faster computer will help reduce the time required to complete the labs.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 12: Advanced Operating Systems</b>			
<b>Worksheets</b>			
12.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
	No Worksheets: Instructor will need to make them for this section.		
<b>Lab skills</b>			
12.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
12.2.2	Advanced Installation of Windows XP; Create a Partition in Windows XP Pro; and Customize Virtual Memory Settings: Doing these labs together will save you time. A computer with a new installation of Windows XP, Windows XP CD, at least a 5GB hard drive, a black formatted floppy, and internet access.	60 min.	Difficult: There are a lot of steps required to set up an answer file. Students often make mistakes doing this lab. Instructions are well done but can be confusing. Students will make several partitions; one for each of these 3 labs. (Note: if you do not do these labs together you will need to reformat the hard drive after each time the student does lab 12.2.3. Best to do in small groups.
12.2.3		30 min.	
12.2.4		30 min.	
12.2.5	Install an Alternate Browser (Optional): A computer with Windows XP, and internet access.	15 min.	Basic: Students will need to download and install Firefox. Since this is an optional lab students could do this for home work.
12.4.1	Schedule Task Using GUI and at Command: A computer with Windows XP.	20 min.	Moderate: You will need to help most students with some of the command typed in the command window.
12.5.3	2x Repair Operating System Problem (hands-on lab and remote technician lab)	30 min.	Moderate: Students should be familiar with this type of lab. The difficult part will be solving the problem.

## Chapter 13: Advanced Laptops and Portable Devices

Chapter 13	(1.75 hours) (2.9% of 70 hours)
<b>Advanced Laptops and Portable Devices</b>	<p>Day 1: (0.5 hour) - Chapter 13: section 13.1 (B), 13.2 (B), 13.3 (B), 13.4 (B)</p> <p>1) This section is well done. Focus lecture on: Introduction of chapter – give an over view of each section.</p> <p><b>Home work: Chapter: sections 13.1 – 13.4 take notes; Worksheets 13.2, 13.3.1, 13.2.2, 13.2.3, 13.2.4</b></p> <p>Day 2: (1 hour) - Chapter 13: section 13.5 (M)</p> <p>1) A short lecture on: 13.5 (discuss open and close ended question techniques, and troubleshooting laptops.)</p> <p>2) After the lecture hand out Worksheet 13.5.3 (Verify work order information) Have students read over the section and do the worksheet.</p> <p>3) Mark all worksheets before the end of the class</p> <p><b>Home work: End of chapter quiz, study for chapter exam</b></p> <p>Day 3: (0.5 hour) – Chapter 13: Review and exam</p> <p>1) 10 minute review, 20 minutes for chapter 12 - 13 exam.</p> <p>2) <b>Start Chapter 14, see chapter 14 schedule</b></p>

## Chapter 13: Worksheets and Lab Skills Instruction

No equipment required.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 13: Advanced Laptops and Portable Devices</b>			
<b>Worksheets</b>			
13.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
13.2	Investigating Repair Centers: Covers sections 13.2, research repair centers. Use the internet.	Basic: Assign as home work.	
13.3.1	Laptop Batteries: Covers sections 13.3.1, research battery specification. Use the internet.	Basic: Assign as home work. Have laptop model number ready for students to use.	
13.3.2	Docking Station: Covers sections 13.3.2, research battery specification. Use the internet.	Basic: Assign as home work. Have laptop model number ready for students to use.	
13.3.3	Research DVD Drive: Covers sections 13.3.3, research battery specification. Use the internet.	Basic: Assign as home work. Have laptop model number ready for students to use.	
13.3.4	Laptop RAM: Covers sections 13.3.4, research battery specification. Use the internet.	Basic: Assign as home work. Have laptop model number ready for students to use.	
13.5.3	Verify Work Order Information: Covers sections 13.5 – 13.5.3, reword level-one questions.	Basic: Assign as home work.	
<b>Lab skills</b>			
13.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
	No Labs: I suggest not adding any more labs.		

## Chapter 14: Advanced Printers and Scanners

ITE v4	(4 hours) (5.7% of 70 hours)
<b>Advanced Printers and Scanners</b>	<p>Day 1: (0.5 hour) - Chapter 14: section 14.1 (B), 14.2 (M)</p> <ol style="list-style-type: none"> <li>1) The sections are well done. Focus lecture on: Introduction of chapter; 14.2.2 (compare and contrast PostScript and PCL, use figures 1 as resources); 14.2.3 (demonstrate settings for printer and scanner)</li> </ol> <p><b>Home work: Chapter: sections 14.1, 14.2 take notes; read chapter labs for next class</b></p> <p>Day 2 - 3: (2 hours) - Chapter 14: section 14.3 (M), 14.4 (B), 14.5 (B),</p> <ol style="list-style-type: none"> <li>1) A short lecture on: 14.3 (demonstrate share a printer and print over a network)</li> <li>2) Explain to students how chapter 14 labs will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the labs. The labs are very useful in helping students understand this chapter.</li> <li>3) Your time should be spent working with students while they complete chapter 14 labs.</li> <li>4) <b>NOTE:</b> If classroom resources are limited and you cannot get these labs completed in the allotted time, consider setting up lab time outside of the regular class time.</li> </ol> <p><b>Home work: Chapter: sections 14.3 – 14.5 take notes; Worksheet 14.5.1; Chapter 14 labs</b></p> <p>Day 4: (1 hour) - Chapter 14: section 14.6 (M)</p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class.</li> <li>2) A short lecture on: 14.6 (discuss open and close ended question techniques, and troubleshooting operating systems.)</li> <li>3) After the lecture hand out Labs 14.6.3 (Remote Technician Perform a role-play to connect a printer problem). Have students read over the section and do the lab. Mark lab before the end of the class</li> </ol> <p><b>Home work: End of chapter quiz, study for chapter exam</b></p> <p>Day 5: (0.5 hour) – Chapter 14: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 14 exam.</li> <li>2) <b>Start Chapter 15, see chapter 15 schedule</b></li> </ol>

## Chapter 14: Worksheets and Lab Skills Instruction

These labs use an Epson CX7800 printer/scanner. If you use a different make or module you will need to adjust the lab.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 14: Advanced Printers and Scanners</b>			
<b>Worksheets</b>			
14.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
14.5.1	Search for Certified Printer Technician Jobs: Covers sections 14.5.1, research printer technician jobs. Use the internet.	Basic: Assign as home work.	
<b>Lab skills</b>			
14.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
14.2.4	Install an All-in-one Printer/Scanner: A computer with windows XP, a printer or scanner, software and internet access.	15 min.	Basic: Well done lab. The instruction in the first step may not work if you do not have the specified Epson CX7800, so you should look into this before starting the lab.
14.3.2	Share the All-in-one Printer/Scanner: Two computers connected by hub or switch, and a printer or scanner	10 min.	Basic: Well done lab.
14.4.2	Comparing Scanned Images: A computer with windows XP, a printer or scanner, software, and an image to scan.	15 min.	Basic: Well done lab.
14.6.3	Fix a Printer Problem: Two computers, or more, connected by hub or switch or router, and two printers or scanners	30 min.	Moderate: Students should be familiar with this type of lab. The difficult part will be solving the problem.

## Chapter 15: Advanced Networks

ITE v4	(6 hours) (8.6% of 70 hours)
<b>Advanced Networks</b>	<p>Day 1: (0.5 hour) - Chapter 15: section 15.1 (B), 15.2 (B)</p> <p>1) This section is well done. Focus lecture on: Introduction of chapter – give a broad over view of each section.</p> <p><b>Home work: Chapter: read chapter labs 15.4.2a, 15.4.2b, 15.5.1, 15.5.2, 15.5.3, and 15.8.3 (Network Problem)</b></p> <p>Day 2 - 5: (4 hours) - Chapter 15: section 15.3 (M), 15.4 (B), 15.5 (M), 12.6 (D), 15.7 (B)</p> <p>1) For these sections focus your lecture on the following: 15.3.2 (review ISP connection types, figure 1 is a helpful diagram); 15.5 (demonstrate installing, configuring and testing a wireless connection – computer and router); 15.6 (explain that the students do not have to know how to setup a mail server, they need to know the bold face words and definition).</p> <p>2) Explain to students how chapter 15 labs will be done. Assign lab groups. See lab skill instructions on next page and this page for suggestions on how to organize and run the labs.</p> <p>3) After the lecture hand out Worksheets 15.2.2, 15.3.2, send groups to work on the lab, and students not doing the lab can read section 15.1 – 15.7 and take detailed notes.</p> <p>4) Your time should be spent working with students while they complete chapter 15 labs.</p> <p>5) <b>NOTE:</b> If classroom resources are limited and you can not get these labs completed in the allotted time, students could do lab 15.4.2a as homework and consider setting up lab time outside of the regular class time.</p> <p><b>Home work: Chapter: sections 15.1 – 15.7 take notes; Worksheets 15.2.2, 15.3.2; Chapter 15 labs</b></p> <p>Day 6: (1 hour) - Chapter 15: section 15.8 (M)</p> <p>1) Mark worksheets in class.</p> <p>2) A short lecture on: 15.8 (discuss open and close ended question techniques, and troubleshooting network.)</p> <p>3) After the lecture hand out Labs 15.8.3 (Remote Technician Network Problem). Have students read over the section and do the lab. Mark lab before the end of the class</p> <p><b>Home work: End of chapter quiz, study for chapter exam</b></p> <p>Day 7: (0.5 hour) – Chapter 15: Review</p> <p>1) 10 minute review.</p> <p>2) <b>Start Chapter 16, see chapter 16 schedule</b></p>

### Chapter 15: Worksheets and Lab Skills Instruction

A computer with Windows XP and Firefox installed. There should be a NIC installed in the computer as lab 15.5.2 requires 2 NICs.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

Chapter 15: Advanced Networks			
Worksheets			
15.0	Worksheet description and materials	Worksheet difficulty	
15.2.2	Protocols: Covers sections 15.2.2, list protocols and ports. Use curriculum.	Basic: Assign as home work.	
15.3.2	ISP Connection Types: Covers sections 15.3.2, identify ISP connections. Use curriculum.	Basic: Assign as home work.	
Lab skills			
15.0	Lab materials	Estimated time	Lab difficulty
15.4.2a	Configure Browser Settings: A computer with Windows XP, Firefox installed, and internet access.	10 min.	Basic: Well done lab. Could assign as home work.
15.4.2b	Share a Folder, Share a Printer, and Set Share Permissions: Two computers with Windows XP, connected via a hub, and a printer.	15 min.	Basic: Well done lab. Have the printer completely installed on one of the computers. Students will share this printer.
15.5.1	Install Wireless NIC: A computer with Windows XP, wireless NIC, wireless access point or Linksys router and screwdriver.	25 min.	Basic: Well done lab.
15.5.2	Configure Wireless Router: A computer with Windows XP, with a wireless and wired NIC installed, wireless access point or Linksys router and Ethernet cable.	10 min.	Basic: Well done lab. Add more to this lab. Have students explore the router setting and collect configuration information.
15.5.3	Test the Wireless NIC: A computer with Windows XP, with a wireless and wired NIC installed, wireless access point or Linksys router and internet access.	10 min.	Basic: Well done lab.
15.8.3	Fix Network Problem: A computer with Windows XP, with a wireless and wired NIC installed, wireless Linksys router and Ethernet cable.	30 min.	Moderate: Students should be familiar with this type of lab. The difficult part will be solving the problem.

## Chapter 16: Advanced Security

ITE v4	(2.25 hours) (3.6% of 70 hours)
<b>Advanced Security</b>	<p>Day 1: (0.5 hour) - Chapter 16: section 16.1 <b>(B)</b>, 16.2 <b>(D)</b>, 16.3 <b>(M)</b></p> <ol style="list-style-type: none"> <li>1) This section is well done. Focus lecture on: Introduction of chapter; 16.2.1 (explain the different encryption methods, figures 1 – 4 are great for this); 16.2.3 (go over the modes for filtering network data); 16.3.1 (review wireless security configuration).</li> <li>2) Handout worksheet 16.1.1, 16.2.3</li> </ol> <p><b>Home work: Chapter: sections 16.1 – 16.3 take notes; Worksheets 16.1.1, 16.2.3; Do lab 16.3.2 at home; Read over lab 16.5.3 (Security Problem)</b></p> <p>Day 2: (1 hour) - Chapter 16: section 16.4 <b>(B)</b>, 16.5 <b>(M)</b></p> <ol style="list-style-type: none"> <li>1) Mark worksheets in class.</li> <li>2) Walk through (demonstrate) Lab 16.5.3 (Security Problem) as a class.</li> <li>3) A short lecture on: 16.5 (discuss open and close ended question techniques, and troubleshooting networks.)</li> <li>4) After the lecture hand out Labs 16.5.3 (Remote Technician Security Problem). Have students read over the section and do the lab. Mark lab before the end of the class</li> </ol> <p><b>Home work: End of chapter quiz, study for chapter exam</b></p> <p>Day 3: (1 hour) – Chapter 16: Review and exam</p> <ol style="list-style-type: none"> <li>1) 10 minute review, 20 minutes for chapter 15 - 16 exam.</li> <li>2) <b>Explain what is in the skills based assessment and online exam, how exams will be done. Hand out any review materials.</b></li> </ol>

## Chapter 16: Worksheets and Lab Skills Instruction

A computer with Windows XP with internet access.

Difficulty level: Basic – should require no help from teacher  
 Moderate – may require some help from teacher  
 Difficult – will require help from teacher

<b>Chapter 16: Advanced Security</b>			
<b>Worksheets</b>			
16.0	<b>Worksheet description and materials</b>	<b>Worksheet difficulty</b>	
16.1.1	Security Policy Questions: Covers sections 16.1.1, your lab security policy.	Moderate: You will have to help answer some of the questions as the students may not know this information	
16.2.3	Research Firewalls: Covers sections 16.2.3, research firewalls. Internet access.	Basic: Assign as home work.	
<b>Lab skills</b>			
16.0	<b>Lab materials</b>	<b>Estimated time</b>	<b>Lab difficulty</b>
16.3.2	Configure a Windows XP Firewall: A computer with Windows XP, and internet access.	10 min.	Basic: Well done lab. Could assign as home work.
16.5.3	Fix a Security Problem: A computer with Windows XP, with a wireless and wired NIC installed, wireless Linksys router and Ethernet cable.	30 min.	Moderate: Students should be familiar with this type of lab. The difficult part will be solving the problem.

## Chapter 11 - 16: Review and Exam Schedule

<b>ITE v4</b>	<b>(5 hours) ( 7.1% of 70 hours)</b>
<b>Review &amp; Exam Week</b>	<p>Day 1 - 4: (4 hours) - Chapter 11 – 16 Review and Skills Based Assessment</p> <ol style="list-style-type: none"> <li>Over the next 4 days the students can be either reviewing or taking the Skills Based Assessment. Rotate students through the skill based assessment. Resources and time will affect what and how you test the students.</li> <li>Review resources include but not limited to: student notes, worksheets, practice skills and redo chapter 11 – 16 quizzes to help them study. If you allow students to redo any of the chapter exams make sure you have recorded their grade from their first try before re-activating the exam.</li> </ol> <p>Day 5: (1 hour) - Chapter 11 – 16 Online Exam</p> <ol style="list-style-type: none"> <li>The final chapter 11 – 16 exam is online and located at the Cisco site. You will need to activate the exam. Students can take this exam twice if you wish. See instruction below for an example of why you might want to do this.</li> </ol>

## Chapter 11 - 16: Exams

<b>ITE v4</b>	<b>An Examination Method</b> (only a suggestion)	
<b>On-Line Final Exam &amp; Skill Based Exam</b>	The skill exam has nine parts (Pass or Fail).	
	<b>Give the students 2 tries at the On-line Chapter 11 - 16 Exam if needed</b>	<b>First try: The grade you get is used for your school mark</b>
		<b>Last try: If you did not get 73% or better on your first try you will need 80% on this try. These students come in before, after or at lunch break to take their second try.</b>

The chapter-by-chapter summary can be used as a reference to help you get organized. For each chapter the following information is summarized: **Chapter #** - chapter number; **Lec/Lab hours** – classroom hours allotted for lectures and labs; **Homework** – estimated number of hours needed to complete assigned homework; **Required Labs** – lab number that you should setup for each chapter; **Virtual Labs** – listing of virtual labs; **Required Worksheets** – worksheets that you can need to assign to students; **Instructor Developed Resources** – materials and support materials, add to this as you develop these; **Difficult Section(s)** – a listing of difficult sections, as a minimum you should focus your lecture on these section.

## Chapter-by-Chapter Summary

Chapter #	Lec/Lab Hours	Home Work	Required Labs	Virtual Labs	Required Worksheets	Instructor Developed Resources	Difficult Section(s)
<b>Materials and things that need to be set up before the course starts:</b>						Welcome letter. Course scope and sequence. Course evaluation. Class time-line and lecture times. Office hours. Cisco accounts and logon information for each student. Student lab and work sheets. Required Browsers and Plug-ins.	Note: Lectures should focus on difficult sections listed below
1	4.5	4	NA	NA	1.1.2 1.4.7	Lecture: “Chapter 1 Introduction to the Personal Computer”	1.4 1.8
2	1.5	2	2.3.4	NA	2.2.2	Lecture: “Chapter 2 Safe Lab Procedures and Tool Use”	No difficult sections
3	5	2	3.2.0 3.3.3 3.5.2 3.6.3 3.7.2 3.8.2 3.9.2	3.2.0 3.3.3 3.4.3 3.5.2 3.6.3 3.7.2 3.8.2	NA	Lecture: “Chapter 3 Assembly – Step by Step”	No difficult sections
4	1.5	2	NA	NA	NA	Lecture: “Chapter 4 Basics of Preventive Maintenance and Troubleshooting”	No difficult sections
5	5	4	5.4.2 5.4.5 5.5.1 5.5.4 5.6.2 5.6.3	NA	5.2.2 5.3.2 5.4.9	Lecture: “Chapter 5 Fundamental Operating Systems”	5.1 5.4

## Chapter-by-Chapter Summary (continued)

Chapter #	Lec/Lab Hours	Home Work	Required Labs	Virtual Labs	Required Worksheets	Instructor Developed Resources	Difficult Section(s)	
6	3	4	NA	6.2.1 6.2.2 6.2.3 6.4.2	6.1.2 6.2.3 6.3.4 6.4.1 6.7.2	Lecture: “Chapter 6 Fundamental Laptops and Portable Devices”	No difficult sections	
7	4	4	7.4.2	NA	NA	Lecture: “Chapter 7 Fundamental Printers and Scanners”	No difficult sections	
8	6	5	8.9.2	NA	8.3.2 8.9.1 8.10.3 8.12.2	Lecture: “Chapter 8 Networks”	8.3 8.7 8.8	
9	3	4	NA	NA	9.1.0 9.2.1 9.4.2 9.5.2	Lecture: “Chapter 9 Security”	No difficult sections	
10	2.5	3	NA	NA	10.1.0	Lecture: “Chapter 10 Communication Skills”	No difficult sections	
Chapter 1 – 10 Exam	1	Internet connect to Cisco site. <b>IMPORTANT: This Exam must be supervised.</b>						
11	4.5	4	11.4.1 11.4.3 11.4.5 11.6.3 11.6.3RT	NA	11.1.0 11.3.7	Lecture: “Chapter 11 Advanced Personal Computers	No difficult sections	
12	6	3	12.2.2 12.2.3 12.2.4 12.2.5 12.4.1 12.5.3 12.5.3RT	NA	NA	Lecture: “Chapter 12 Advanced Operating Systems”	No difficult sections	

## Chapter-by-Chapter Summary (continued)

Chapter #	Lec/Lab Hours	Home Work	Required Labs	Virtual Labs	Required Worksheets	Instructor Developed Resources	Difficult Section(s)
13	2	4	NA	NA	13.2.0 13.3.1 13.3.2 13.3.3 13.3.4 13.5.3	Lecture: “Chapter 13 Advanced Laptops and Portable Devices”	No difficult sections
14	4	3	14.2.4 14.3.2 14.4.2 14.6.3 14.6.3RT	NA	14.5.1	Lecture: “Chapter 14 Advanced Printers and Scanners”	No difficult sections
15	6	4	15.4.2a 15.4.2b 15.5.1 15.5.2 15.5.3 15.8.3 15.8.3RT	NA	15.2.2 15.3.2	Lecture: “Chapter 15 Advanced Networks”	12.6
16	2.5	3	16.3.2 16.5.3 16.5.3RT	NA	16.1.1 16.2.3	Lecture: “Chapter 16 Advanced Security”	16.2
Skill Exam	4		Computer, Tool Kit and Windows OS <b>IMPORTANT: This Exam must be supervised.</b>				
Chapter 11 – 16 Exam	1		Internet connect to Cisco site. <b>IMPORTANT: This Exam must be supervised.</b>				



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