



Compass Public Charter School
Compass IT Essentials - Class Syllabus

Instructor: Sal Simili

Contact information - E-mail: ssimili@compasscharter.org

Phone: 286-1003

- A. IT Essentials deals mostly with the CompTia A+ certification. A+ certification is an industry standard certification that demonstrates entry level job skills in computer troubleshooting and repair, fundamental computer hardware and operating systems. Understanding how they work, the components involved in building, maintaining, and repairing computers. We will also discuss the basics of server hard drive systems and computer peripherals such as printers, scanners, digital cameras as well as fundamental computer networks.
- B. Always feel free to contact your instructor if you have any questions or concerns any time before 9PM.
- C. There will be weekly Labs where we will have 'hands-on' projects, ONLY IF Class work, tests, and reading is done.
- D. Homework: There will be homework assignments as needed to cover the curriculum. Most homework assignments will be reading sections of the online curriculum and some Internet research. I will try to keep the homework to a minimum depending on how much can be covered during class time.
- E. Attendance is an absolute must! We will be moving quickly in this class and have a lot of information to cover and Labs to do. If a student is absent on lab or lecture days it will be difficult to catch up.
- F. Discipline:
 - 1. As with all Compass classes there will be no talking or playing around. The only talking will be discussing our subject and collaborating during lab time. As soon as students enter the class they will need to log in to their computer and log in to the Cisco curriculum, and be ready for instruction to begin. We will have very little transition time.
 - 2. There is no excuse for damaging computers. It is a crime and will be reported to the police as vandalism.
- G. Notebooks are required. Handwritten notes are one of the best ways to remember information that is important and it makes a great reference for future use. Notebooks must be kept in an orderly fashion and must be legible. Notebooks will be checked weekly and will be part of the final grade. You may take notes in Microsoft Word if you would rather type.
- H. Grading: There will be 16 chapter tests and a final exam making up the bulk of your grade. There will also be credit for attendance, class participation, and notebooks.
- I. Exams:
 - 1. There will be an exam every Thursday or Friday morning. Each exam may take the entire class period so come to class ready to go!
 - 2. There will be a final exam.
 - 3. Keep a neat notebook. They make a great study guide and tests are open notes!

J. Subjects covered:

Chapter 1 – Introduction to the Personal Computer	<ul style="list-style-type: none"> • Explain IT industry certifications. • Describe a computer system. • Identify the names, purposes, and characteristics of cases and power supplies. • Identify the names, purposes, and characteristics of internal components. • Identify the names, purposes, and characteristics of ports and cables. • Identify the names, purposes, and characteristics of input devices. • Identify the names, purposes, and characteristics of output devices. • Explain system resources and their purposes.
Chapter 2 – Safe Lab Procedures and Tool Use.	<ul style="list-style-type: none"> • Explain the purpose of safe working conditions and procedures. • Identify tools and software used with personal computer components and their purposes. • Implement proper tool use.
Chapter 3 – Computer Assembly	<ul style="list-style-type: none"> • Open the case. • Install the power supply. • Attach the components to the motherboard and install the motherboard. • Install internal drives. • Install drives in external bays. • Install adapter cards. • Connect all internal cables. • Re-attach the side panels and connect external cables to the computer. • Boot the computer for the first time.
Chapter 4 – Basics of Maintenance and Troubleshooting.	<ul style="list-style-type: none"> • Explain the purpose of preventive maintenance. • Identify the steps of the troubleshooting process.
Chapter 5 – Fundamental Operating Systems	<ul style="list-style-type: none"> • Explain the purpose of an operating system. • Describe and compare operating systems to include purpose, limitations, and compatibilities. • Determine the operating system based on customer needs. • Install an operating system. • Navigate a GUI. • Identify and apply common preventive maintenance techniques for operating systems. • Troubleshoot operating systems.

<p>Chapter 6 – Fundamental Laptops and Portable Devices.</p>	<ul style="list-style-type: none"> • Describe laptops and other portable devices. • Identify and describe the components of a laptop. • Compare and contrast desktop and laptop components. • Explain how to configure laptops. • Compare the different mobile phone standards. • Identify common preventive maintenance techniques for laptops and portable devices. • Describe how to troubleshoot laptops and portable devices.
<p>Chapter 7 – Fundamental Printers and Scanners</p>	<ul style="list-style-type: none"> • Describe the types of printers currently available. • Describe the installation and configuration process for printers. • Describe the types of scanners currently available. • Describe the installation and configuration process for scanners. • Identify and apply common preventive maintenance techniques for printers and scanners. • Troubleshoot printers and scanners.
<p>Chapter 8 – Fundamental Networks</p>	<ul style="list-style-type: none"> • Explain the principles of networking. • Describe types of networks. • Describe basic networking concepts and technologies. • Describe the physical components of a network. • Describe LAN topologies and architectures. • Identify standards organizations. • Identify Ethernet standards. • Explain OSI and TCP/IP data models. • Describe how to configure a NIC and a modem. • Identify names, purposes, and characteristics of other technologies used to establish connectivity. • Identify and apply common preventive maintenance techniques used for networks. • Troubleshoot a network.
<p>Chapter 9 – Fundamental Security</p>	<ul style="list-style-type: none"> • Explain why security is important. • Describe security threats. • Identify security procedures. • Identify common preventive maintenance techniques for security.

	<ul style="list-style-type: none"> • Troubleshoot security.
Chapter 10 – Communication Skills	<ul style="list-style-type: none"> • Explain the relationship between communication and troubleshooting. • Describe good communication skills and professional behavior. • Explain ethics and legal aspects of working with computer technology. • Describe the call center environment and technician responsibilities.
Chapter 11 – Advanced Personal Computers	<ul style="list-style-type: none"> • Give an overview of field, remote, and bench technician jobs. • Explain safe lab procedures and tool use. • Describe situations requiring replacement of computer components. • Upgrade and configure personal computer components and peripherals. • Identify and apply common preventive maintenance techniques for personal computer components. • Troubleshoot computer components and peripherals.
Chapter 12 – Advanced Operating Systems	<ul style="list-style-type: none"> • Select the appropriate operating system based on customer needs. • Install, configure, and optimize an operating system. • Describe how to upgrade operating systems. • Describe preventive maintenance procedures for operating systems. • Troubleshoot operating systems.
Chapter 13 – Advanced Laptops and Portable Devices	<ul style="list-style-type: none"> • Describe wireless communication methods for laptops and portable devices. • Describe repairs for laptops and portable devices. • Select laptop components. • Describe preventive maintenance procedures for laptops. • Describe how to troubleshoot a laptop.
Chapter 14 – Advanced Printer and Scanners	<ul style="list-style-type: none"> • Describe potential safety hazards and safety procedures associated with printers and scanners. • Install and configure a local printer and scanner. • Describe how to share a printer and a scanner on a network. • Upgrade and configure printers and scanners. • Describe printer and scanner preventive maintenance techniques.

	<ul style="list-style-type: none">• Troubleshoot printers and scanners.
Chapter 15 – Advanced Networks	<ul style="list-style-type: none">• Identify potential safety hazards and implement proper safety procedures related to networks.• Design a network based on the customer's needs.• Determine the components for your customer's network.• Implement the customer's network.• Upgrade the customer's network.• Describe installation, configuration, and management of a simple mail server.• Describe preventive maintenance procedures for networks.• Troubleshoot the network.
Chapter 16 – Advanced Security	<ul style="list-style-type: none">• Outline security requirements based on customer needs.• Select security components based on customer needs.• Implement customer's security plan.• Perform preventive maintenance on security.• Troubleshoot security.