

COMPUTER SERVICE TECHNOLOGY 2
COURSE CODE 5321
(COURSE NAME CHANGES TO “ADVANCED COMPUTER REPAIR AND SERVICE”
IN 2016-17)

COURSE DESCRIPTION:

The Advanced Computer Repair and Service course is a continuation of the Computer Repair and Service course. It prepares students to perform advanced, detailed tasks related to computer repair. Students receive instruction in operating systems, security, mobile devices, and troubleshooting. Laboratory activities provide instruction in installation, configuration, operation, maintenance, security, troubleshooting, and repair of industry-standard operating systems in accordance with industry certification standards.

The most current listing of standards for this course/program can be found at industry sites such as the CompTIA Web site at <http://certification.comptia.org/getCertified/certifications/a.aspx>.

OBJECTIVE:

Given the necessary equipment, materials, and instruction, the student, on completion of the prescribed course of study, will be able to successfully accomplish the following standards.

COURSE CREDIT: 1 or 2 Carnegie units

PREREQUISITE(S): Computer Repair and Service and/or passing score on applicable industry certification such as CompTIA A+ 220-801

RECOMMENDED GRADE LEVEL: 10-12

A. SAFETY

1. Review school safety policies and procedures.
2. Review classroom safety rules and procedures.
3. Review safety procedures for using equipment in the classroom.
4. Identify major causes of work-related accidents in office environments.
5. Demonstrate safety skills in an office/work environment.

B. STUDENT ORGANIZATIONS

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.
3. Explain the benefits and responsibilities of being a member of a CTSO.
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

C. TECHNOLOGY KNOWLEDGE

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS

1. Demonstrate punctuality.
2. Demonstrate self-representation.
3. Demonstrate work ethic.
4. Demonstrate respect.
5. Demonstrate time management.
6. Demonstrate integrity.
7. Demonstrate leadership.
8. Demonstrate teamwork and collaboration.
9. Demonstrate conflict resolution.
10. Demonstrate perseverance.
11. Demonstrate commitment.
12. Demonstrate a healthy view of competition.
13. Demonstrate a global perspective.
14. Demonstrate health and fitness.
15. Demonstrate self-direction.
16. Demonstrate lifelong learning.

E. PROFESSIONAL KNOWLEDGE

1. Demonstrate effective speaking and listening skills.
2. Demonstrate effective reading and writing skills.
3. Demonstrate mathematical reasoning.
4. Demonstrate job-specific mathematics skills.
5. Demonstrate critical-thinking and problem-solving skills.
6. Demonstrate creativity and resourcefulness.

7. Demonstrate an understanding of business ethics.
8. Demonstrate confidentiality.
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.
10. Demonstrate diversity awareness.
11. Demonstrate job acquisition and advancement skills.
12. Demonstrate task management skills.
13. Demonstrate customer-service skills.

F. OPERATING SYSTEMS (DOMAIN 1.0)

- 1.1 Compare and contrast the features and requirements of various Microsoft Operating Systems.
- 1.2 Install and configure the operating system using the most appropriate method given a scenario.
- 1.3 Use appropriate command line tools given a scenario.
- 1.4 Use appropriate operating system features and tools given a scenario.
- 1.5 Use Control Panel utilities (the items are organized by “classic view/large icons” in Windows) given a scenario.
- 1.6 Set up and configure Windows networking on a client/desktop.
- 1.7 Perform preventive maintenance procedures using appropriate tools.
- 1.8 Explain the differences among basic OS security settings.
- 1.9 Explain the basics of client-side virtualization.

G. SECURITY (DOMAIN 2.0)

- 2.1 Apply and use common prevention methods.
- 2.2 Compare and contrast common security threats.
- 2.3 Implement security best practices to secure a workstation.
- 2.4 Use the appropriate data destruction/disposal method given a scenario.
- 2.5 Secure a SOHO wireless network given a scenario.
- 2.6 Secure a SOHO wired network given a scenario.

H. MOBILE DEVICES (DOMAIN 3.0)

- 3.1 Explain the basic features of mobile operating systems.
- 3.2 Establish basic network connectivity and configure email.
- 3.3 Compare and contrast methods for securing mobile devices.
- 3.4 Compare and contrast hardware differences concerning tablets and laptops.
- 3.5 Execute and configure mobile device synchronization.

I. TROUBLESHOOTING (DOMAIN 4.0)

- 4.1 Explain the troubleshooting theory given a scenario.
- 4.2 Troubleshoot common problems related to motherboards, RAM, CPU, and power with appropriate tools given a scenario.
- 4.3 Troubleshoot hard drives and RAID arrays with appropriate tools given a scenario.

- 4.4 Troubleshoot common video and display issues given a scenario.
- 4.5 Troubleshoot wired and wireless networks with appropriate tools given a scenario.
- 4.6 Troubleshoot operating system problems with appropriate tools given a scenario.
- 4.7 Troubleshoot common security issues with appropriate tools and best practices given a scenario.
- 4.8 Troubleshoot and repair common laptop issues while adhering to the appropriate procedures given a scenario.
- 4.9 Troubleshoot printers with appropriate tools given a scenario.