

Course Outline

Information and Communication Technologies

REVISED: February/2022

Job Title

IT Support Technician

Career Pathway:

Information Support and Services

Industry Sector:

Information and Communication Technologies

O*NET-SOC CODE:

15-1232.00

CBEDS Title:

Computer Repair & Support

CBEDS No.:

4633

79-30-65

**INTRODUCTION TO
IT SUPPORT TECHNICIAN**

Credits: 5

Hours: 60

Course Description:

This competency-based course prepares students for entry-level positions as Information Technology Support Technicians. Instruction includes orientation and safety, introduction to hardware and DOS, electricity and power, main system board, hard disk drive and solid state drive, installation of a hard drive, memory, monitors, peripherals, basic networking, Windows operating system (OS) and installation of Windows 10 or later, MAC and Chrome OS, troubleshooting skills and employability skills. The competencies in this course are aligned with the California High School Academic Content Standards and the California Career Technical Education Model Curriculum Standards.

Prerequisites:

Enrollment requires a 6.0 reading level as measured by the CASAS GOALS test, and math skills equivalent to Math 1 (53-03-75).

NOTE: For Perkins purposes this course has been designated as an **introductory** course.

This course **cannot** be repeated once a student receives a Certificate of Completion.



COURSE OUTLINE COMPETENCY-BASED COMPONENTS

A course outline reflects the essential intent and content of the course described. Acceptable course outlines have six components. (Education Code Section 52506). Course outlines for all apportionment classes, including those in jails, state hospitals, and convalescent hospitals, contain the six required elements:

(EC 52504; 5CCR 10508 [b]; Adult Education Handbook for California [1977], Section 100)

COURSE OUTLINE COMPONENTS

LOCATION

GOALS AND PURPOSES

Cover

The educational goals or purposes of every course are clearly stated and the class periods are devoted to instruction. The course should be broad enough in scope and should have sufficient educational worth to justify the expenditure of public funds.

The goals and purpose of a course are stated in the COURSE DESCRIPTION. Course descriptions state the major emphasis and content of a course, and are written to be understandable by a prospective student.

PERFORMANCE OBJECTIVES OR COMPETENCIES

pp. 7-14

Objectives should be delineated and described in terms of measurable results for the student and include the possible ways in which the objectives contribute to the student's acquisition of skills and competencies.

Performance Objectives are sequentially listed in the COMPETENCY-BASED COMPONENTS section of the course outline. Competency Areas are units of instruction based on related competencies. Competency Statements are competency area goals that together define the framework and purpose of a course. Competencies fall on a continuum between goals and performance objectives and denote the outcome of instruction.

Competency-based instruction tells a student before instruction what skills or knowledge they will demonstrate after instruction. Competency-based education provides instruction which enables each student to attain individual goals as measured against pre-stated standards.

Competency-based instruction provides immediate and continual repetition and In competency-based education the curriculum, instruction, and assessment share common characteristics based on clearly stated competencies. Curriculum, instruction and assessment in competency-based education are: explicit, known, agreed upon, integrated, performance oriented, and adaptive.

COURSE OUTLINE COMPETENCY-BASED COMPONENTS
(continued)

COURSE OUTLINE COMPONENTS	LOCATION
<p>INSTRUCTIONAL STRATEGIES</p> <p>Instructional techniques or methods could include laboratory techniques, lecture method, small-group discussion, grouping plans, and other strategies used in the classroom.</p> <p>Instructional strategies for this course are listed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructional strategies and activities for a course should be selected so that the overall teaching approach takes into account the instructional standards of a particular program, i.e., English as a Second Language, Programs for Adults with Disabilities.</p>	p. 16
<p>UNITS OF STUDY, WITH APPROXIMATE HOURS ALLOTTED FOR EACH UNIT</p> <p>The approximate time devoted to each instructional unit within the course, as well as the total hours for the course, is indicated. The time in class is consistent with the needs of the student, and the length of the class should be that it ensures the student will learn at an optimum level.</p> <p>Units of study, with approximate hours allotted for each unit are listed in the COMPETENCY AREA STATEMENT(S) of the course outline. The total hours of the course, including work-based learning hours (community classroom and cooperative vocational education) is listed on the cover of every CBE course outline. Each Competency Area listed within a CBE outline is assigned hours of instruction per unit.</p>	Cover pp. 7-14
<p>EVALUATION PROCEDURES</p> <p>The evaluation describes measurable evaluation criteria clearly within the reach of the student. The evaluation indicates anticipated improvement in performances as well as anticipated skills and competencies to be achieved.</p> <p>Evaluation procedures are detailed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructors monitor students' progress on a continuing basis, assessing students on attainment of objectives identified in the course outline through a variety of formal and informal tests (applied performance procedures, observations, and simulations), paper and pencil exams, and standardized tests.</p>	pp. 16-17
<p>REPETITION POLICY THAT PREVENTS PERPETUATION OF STUDENT ENROLLMENT</p> <p>After a student has completed all the objectives of the course, he or she should not be allowed to reenroll in the course. There is, therefore, a need for a statement about the conditions for possible repetition of a course to prevent perpetuation of students in a particular program for an indefinite period of time.</p>	Cover

ACKNOWLEDGMENTS

Thanks to JACOB LAUGHTON, TRUNG LE, AARON SAENZ, and ROGELIO ZAMBRANO for developing and editing this curriculum. Acknowledgment is also given to ERICA ROSARIO for designing the original artwork for the course covers.

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CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS
Information and Communication Technologies Industry Sector
Knowledge and Performance Anchor Standards

1.0 Academics

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Information and Communication Technologies academic alignment matrix for identification of standards.

2.0 Communications

Acquire and accurately use Information and Communication Technologies sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management

Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology

Use existing and emerging technology, to investigate, research, and produce products and services, including new information, as required in the Information and Communication Technologies sector workplace environment.

5.0 Problem Solving and Critical Thinking

Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Information and Communication Technologies sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety

Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Information and Communication Technologies sector workplace environment.

7.0 Responsibility and Flexibility

Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Information and Communication Technologies sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities

Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork

Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution such as those practiced in the Future Business Leaders of America and SkillsUSA career technical student organization.

10.0 Technical Knowledge and Skills

Apply essential technical knowledge and skills common to all pathways in the Information and Communication Technologies sector, following procedures when carrying out experiments or performing technical tasks.

11.0 Demonstration and Application

Demonstrate and apply the knowledge and skills contained in the Information and Communication Technologies anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through career technical student organizations such as Future Business Leaders of America and SkillsUSA.

Information and Communication Technologies Pathway Standards

A. Information Support and Services Pathway

Students in the Information Support and Services pathway prepare for careers that involve the implementation of computer services and software, support of multimedia products and services, provision of technical assistance, creation of technical documentation, and the administration and management of information and communication systems. Mastery of information and communication technologies is the foundation for all successful business organizations today. Persons with expertise in information and communication technologies support and services are in high demand for a variety of positions in business and industry.

Sample occupations associated with this pathway:

- ◆ Computer and Information System Manager
- ◆ Computer User Support Specialist
- ◆ Database Administrator
- ◆ Document Management Specialist
- ◆ Business Intelligence Analyst

A1.0 Describe the role of information and communication technologies in organizations.

A2.0 Acquire, install, and implement software and systems.

A3.0 Access and transmit information in a networked environment.

A4.0 Administer and maintain software and systems.

A5.0 Identify requirements for maintaining secure network systems.

A6.0 Diagnose and solve software, hardware, networking, and security problems.

A7.0 Support and train users on various software, hardware, and network systems.

A8.0 Manage and implement information, technology, and communication projects.

CBE
Competency-Based Education

COMPETENCY-BASED COMPONENTS
for the Introduction to IT Support Technician Course

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>A. ORIENTATION AND SAFETY</p> <p>Know the skills and safety regulations required for employment in the service and support technician fields.</p> <p>(1 hour)</p>	<ol style="list-style-type: none"> 1. Describe qualifications and prerequisites for this trade. 2. Describe working conditions and opportunities. 3. Describe Emergency Procedures. 4. Describe classroom “shop” policies and procedures. 5. Pass the designated safety test with 100% accuracy. 	<p>Career Ready Practice: 1, 2, 4, 11</p> <p>CTE Anchor: Communications: 2.4, 2.5, 2.7 Career Planning and Management: 3.1, 3.2, 3.3, 3.4, 3.5, 3.9 Technology: 4.1, 4.2, 4.3, 4.6 Responsibility and Flexibility: 7.3, 7.7, 7.8 Ethics and Legal Responsibilities: 8.1, 8.5 Leadership and Teamwork: 9.2, 9.6 Technical Knowledge and Skills: 10.1, 10.4, 10.14, 11.2</p> <p>CTE Pathway: A1.1, A5.1, A7.1</p>
<p>B. INTRODUCTION TO HARDWARE</p> <p>Learn the hardware components of a Personal Computer (PC).</p>	<ol style="list-style-type: none"> 1. Identify the parts of a PC. 2. Define hardware. 3. Explain how to identify the different types of ports and connectors. 4. Identify and explain the main system board. 5. Identify the power supply. 6. Explain how to identify the different types of storage controllers. 7. Identify the different types of cables. 8. Define Random-access Memory (RAM). 9. Define Read-only Memory (ROM). 	<p>Career Ready Practice: 1, 2, 4, 10</p> <p>CTE Anchor: Communications: 2.4, 2.5 Technology: 4.3, 4.6</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(2 hours)	<ol style="list-style-type: none"> 10. Explain EIDE primary and secondary hard disk. 11. Define Central Processing Unit (CPU). 12. Explain various PC peripherals. 13. Dismantle a PC. 14. Reassemble the PC. 15. Pass a hardware identification assessment. 	<p>Technical Knowledge and Skills: 10.1, 10.13</p> <p>Demonstration and Application: 11.2</p> <p>CTE Pathway: A2.3, A6.1, A8.3</p>
<p>C. ELECTRICITY AND POWER</p> <p>Know the law of electromagnetism and their relevance to the structure and function of personal computers.</p> <p>(3 hours)</p>	<ol style="list-style-type: none"> 1. Explain the fundamental laws of repulsion and attraction of like/unlike charges/poles. 2. Demonstrate the use of a digital multimeter. 3. Explain power conditioners and uninterruptible power supplies. 4. Describe the use of various power supplies for preventing loss of data and damage to hardware from sags and surges. 5. Explain surge suppressors and power strips. 6. Demonstrate how to measure voltages on a power supply. 7. Demonstrate how to measure voltages to the motherboard. 8. Describe preventive maintenance and ESD. 9. Pass an electricity and power supplies assessment. 	<p>Career Ready Practice: 1, 2, 4, 10</p> <p>CTE Anchor: Communications: 2.4, 2.5 Technology: 4.3, 4.6</p> <p>Technical Knowledge and Skills: 10.1, 10.13</p> <p>Demonstration and Application: 11.2</p> <p>CTE Pathway: A5.1, A6.1, A6.2, A7.1, A8.2,</p>
<p>D. INTRODUCTION TO DOS</p> <p>Learn basic DOS commands.</p>	<ol style="list-style-type: none"> 1. Explain the difference between software and operating system. 2. Describe the difference between BIOS and CMOS. 3. Describe the File Allocation Table and Boot Record. 4. Explain the POST and BOOT sequence. 5. Describe POST audible error codes. 6. Demonstrate basic DOS commands. 7. Pass an introduction to DOS assessment. 	<p>Career Ready Practice: 1, 2, 4, 10, 11</p> <p>CTE Anchor: Communications: 2.4, 2.5 Technology: 4.3, 4.6</p> <p>Technical Knowledge and Skills: 10.1, 10.13</p> <p>Demonstration and Application: 11.2</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(5 hours)		CTE Pathway: A2.1, A2.3, A4.2
<p>E. MAIN SYSTEM BOARD</p> <p>Understand the features and functions of the motherboard.</p>	<ol style="list-style-type: none"> 1. Identify the different types of expansion slots and busses. 2. Identify RAM banks. 3. Demonstrate how to set jumpers. 4. Explain pin one on an EIDE cable. 5. Explain the difference between UEFI and BIOS. 6. Explain CPU clock rate and system clock. 7. Pass a main system board knowledge assessment. 	<p>Career Ready Practice: 1, 2, 4, 10, 11</p> <p>CTE Anchor: Communications: 2.4, 2.5 Technology: 4.3, 4.6 Technical Knowledge and Skills: 10.1, 10.13 Demonstration and Application: 11.2</p> <p>CTE Pathway: A2.1, A2.3, A4.2</p>
<p>F. HARD DISK DRIVE (HDD) AND SOLID STATE DRIVE (SSD)</p> <p>Learn the features and functions of HDD and SSD.</p>	<ol style="list-style-type: none"> 1. Explain Hard Drive (HD) capacity. 2. Describe physical drives and logical drives. 3. Describe fragmentation. 4. Describe cross-linked and lost clusters. 5. Explain disk compression and encryption. 6. Describe disk caching. 7. Describe data transfer rates. 8. Explain the difference between SATA and EIDE hard disk drives. 9. Pass an assessment demonstrating knowledge of hard drives. 	<p>Career Ready Practice: 1, 2, 4</p> <p>CTE Anchor: Communications: 2.4 Technology: 4.3, 4.6 Technical Knowledge and Skills: 10.1, 10.13</p> <p>CTE Pathway: A2.3</p>
<p>G. INSTALLING HDD</p> <p>Understand the proper installation of HD.</p>	<ol style="list-style-type: none"> 1. Demonstrate physical installation of HDD. 2. Demonstrate BIOS configuration. 3. Describe low-level formatting. 4. Demonstrate partitioning and formatting within Windows 10. 5. Troubleshooting HD (HDD and SSD). 6. Describe preventive maintenance. 7. Pass a hard drive installation assessment. 	<p>Career Ready Practice: 1, 2, 4, 10, 11</p> <p>CTE Anchor: Communications: 2.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(3 hours)		Technology: 4.3, 4.6 Technical Knowledge and Skills: 10.1, 10.3, 10.13 Demonstration and Application: 11.2 CTE Pathway: A2.3
H. MEMORY Learn the features and functions of PC memories.	<ol style="list-style-type: none"> 1. Explain the difference between primary memory (RAM and ROM) and secondary memory (HD, CD, etc.). 2. Explain Dynamic RAM and Static RAM. 3. Describe caching memory. 4. Describe memory speeds. 5. Describe how to reset BIOS and NVRAM. 6. Pass a PC memory knowledge assessment. 	Career Ready Practice: 1, 2, 4 CTE Anchor: Communications: 2.4 Technology: 4.3, 4.6 Technical Knowledge and Skills: 10.1, 10.13 CTE Pathway: A2.3
I. MONITORS Understand the features and functions of a monitor.	<ol style="list-style-type: none"> 1. Define pixel. 2. Explain native resolution in a monitor. 3. Describe refresh rates. 4. Describe the resolutions of various monitors. 5. Pass a monitor features and functions assessment. 	Career Ready Practice: 1, 2, 4, 10, 11 CTE Anchor: Communications: 2.4 Technology: 4.3, 4.6 Ethics and Legal Responsibilities: 8.2 Technical Knowledge and Skills: 10.1, 10.13 Demonstration and Application: 11.2

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(1 hour)		CTE Pathway: A2.3
<p>J. PERIPHERALS</p> <p>Understand installation and troubleshooting of PC peripherals.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Demonstrate installation of: <ol style="list-style-type: none"> a. scanners b. printers c. webcams d. microphone e. headsets f. Bluetooth speakers g. NIC cards h. wireless mouse i. wireless keyboard 2. Demonstrate peripheral driver installation. 3. Pass a peripheral installation and troubleshooting assessment. 	<p>Career Ready Practice: 1, 2, 4, 10</p> <p>CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3 Technical Knowledge and Skills: 10.1, 10.3, 10.5, 10.13 Demonstration and Application: 11.2</p> <p>CTE Pathway: A2.3</p>
<p>K. BASIC NETWORKING</p> <p>Understand basic networking features.</p> <p>(4 hours)</p>	<ol style="list-style-type: none"> 1. Define: <ol style="list-style-type: none"> a. internet b. intranet c. browser d. ISP e. IP address f. URL 2. Configure TCP/IP in Windows, Mac, and Chrome OS. 3. Demonstrate connecting to the Internet. 4. Describe cable modem. 5. Describe a SOHO (Small Office Home Office) router. 6. Explain public and private IP address. 7. Explain default gateway. 8. Explain DNS (Domain Name System) 9. Explain wireless and wired networks. 10. Pass a basic networking assessment. 	<p>Career Ready Practice: 1, 2, 4, 10, 11</p> <p>CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3 Technical Knowledge and Skills: 10.1, 10.3, 10.5, 10.13</p> <p>CTE Pathway: A3.1, A3.6</p>
<p>L. WINDOWS OPERATING SYSTEM (OS)</p> <p>Learn basics of navigation and customization of Windows.</p>	<ol style="list-style-type: none"> 1. Demonstrate Windows shortcut keys. 2. Explain files and folders. 3. Demonstrate customizing the desktop. 4. Explain File Explorer. 5. Describe the Start menu and taskbar. 6. Describe the Control Panel. 	<p>Career Ready Practice: 1, 2, 4, 10</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(8 hours)	<ol style="list-style-type: none"> 7. Describe This PC icon and its contents. 8. Demonstrate use of the Print Manager. 9. Demonstrate adding/removing application(s) after installation. 10. Demonstrate how to properly log off of Windows. 11. Pass an assessment demonstrating knowledge of Windows OS. 	<p>CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3 Technical Knowledge and Skills: 10.1, 10.3, 10.5, 10.13 Demonstration and Application: 11.2</p> <p>CTE Pathway: A2.3</p>
<p>M. INSTALLATION OF WINDOWS 10 OR LATER</p> <p>Learn Windows installation process.</p> <p>(3 hours)</p>	<ol style="list-style-type: none"> 1. Describe the difference between minimum and recommended hardware requirements. 2. Demonstrate installation of Windows 10 or later. 3. Describe the different versions of Windows 10 or later. 4. Describe various problems that may arise during installation and how to resolve them. 5. Pass a Windows 10 or later installation assessment. 	<p>Career Ready Practice: 1, 2, 4, 10</p> <p>CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3, 4.6 Technical Knowledge and Skills: 10.1, 10.3, 10.5, 10.13 Demonstration and Application: 11.2</p> <p>CTE Pathway: A2.3</p>
<p>N. MAC OPERATING SYSTEM (OS)</p> <p>Learn MAC OS installation process.</p>	<ol style="list-style-type: none"> 1. Demonstrate how to install/uninstall MAC OS applications. 2. Demonstrate how to boot from the external hard drive to install MAC OS system. 3. Demonstrate how to navigate MAC OS GUI. 4. Demonstrate MAC installation and upgrade. 5. Demonstrate how to determine MAC OS version. 6. Demonstrate how to restore MAC OS from the built-in image. 7. Explain storage and file system formats. 8. Describe the compatibility of file systems. 9. Pass a basic MAC OS knowledge assessment. 	<p>Career Ready Practice: 1, 2, 4, 10</p> <p>CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3, 4.6</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(5 hours)		Technical Knowledge and Skills: 10.1, 10.3, 10.5, 10.13 Demonstration and Application: 11.2 CTE Pathway: A2.3
O. CHROME OS Understanding Chrome OS.	<ol style="list-style-type: none"> 1. Define Chrome OS. 2. How to update Chrome OS. 3. How Chrome OS works with cloud and Google applications 4. Demonstrate how to connect Chromebook-OS to Wi-Fi 5. Demonstrate how to factory reset Chromebook with Powerwash. 6. Pass a basic Chrome OS knowledge assessment. 	Career Ready Practice: 1, 2, 4, 10 CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3, 4.6 Technical Knowledge and Skills: 10.1, 10.3, 10.5, 10.13 Demonstration and Application: 11.2 CTE Pathway: A2.3
P. TROUBLESHOOTING SKILLS Understand the importance of researching and gathering user information for proper PC diagnostic and troubleshooting.	<ol style="list-style-type: none"> 1. Describe the importance of backing up a system. 2. Explain how to approach the problem logically. 3. Describe the importance of researching. 4. Describe the importance of talking to the user. 5. Describe how to talk to the user to acquire information. 6. Role-play listening to a user, providing feedback, and diagnosis. 7. Describe copyright laws and piracy. 8. Define intermittent problems. 9. Explain the importance of problem isolation. 10. Define the steps of problem determination. 11. Define the steps of problem verification. 12. Demonstrate the ability to troubleshoot by successfully diagnosing system problems and resolving them. 13. Pass a troubleshooting skills assessment. 	Career Ready Practice: 1, 2, 4, 5, 10 CTE Anchor: Communications: 2.3, 2.4 Technology: 4.3 Problem Solving and Critical Thinking: 5.3, 5.5 Technical Knowledge and Skills: 10.1

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(10 hours)		Demonstration and Application: 11.1, 11.2, 11.3 CTE Pathway: A6.1, A6.2, A6.3, A6.4, A6.5, A8.1, A8.2,
Q. EMPLOYABILITY SKILLS Understand, apply, and evaluate the employability skills required in the computer technician field.	<ol style="list-style-type: none"> 1. Describe employment requirements. 2. Know how to apply learned skills when seeking employment. 3. Design sample résumés. 4. Describe job specifics for various positions. 5. Describe qualifications needed for employment. 6. Describe plans for seeking employment. 7. Identify potential employers. 8. Describe requirements of filling out a job application such legibility, correctness, and completeness. 9. Complete sample job application forms correctly. 10. Describe the importance of punctuality in a job interview. 11. Describe the importance of a positive attitude in a job interview. 12. Describe the importance of enthusiasm in a job interview. 13. Describe the importance of appropriate appearance on the job interview. 14. Describe the importance of cleanliness and neatness in a job interview. 15. Describe the importance of punctuality on the job. 16. Describe the importance of a positive attitude on the job. 17. Describe the importance of enthusiasm on the job. 18. Describe the importance of appropriate appearance on the job. 19. Describe the importance of cleanliness and neatness on the job. 20. Describe the importance of continuous upgrading of job skills. 21. Describe proper personal appearance and demeanor. 22. Describe customer service as a method of building permanent relationships between the organization and the customer. 	Career Ready Practice: 1, 2, 3, 11 CTE Anchor: Communications: 2.4 Technology: 4.2 Demonstration and Application: 11.2 CTE Pathway: A1.1, A1.4, A8.6, A8.1
(2 hours)		

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Meyers, Mike. CompTIA A+ Guide to Managing and Troubleshooting PCS, 6th Edition, Mc-Graw-Hill Companies

RESOURCES

Employer Advisory Board members

CTE Model Curriculum Standards

<https://www.cde.ca.gov/ci/ct/sf/documents/infocomtech.pdf>

[Computing Technology Industry Association \(CompTIA\)](#), 1815 S. Meyers Rd., Suite 300, Oakbrook Terrace, IL 60181-5228. Phone: (630) 678-8300. Fax: (630) 268-1384

COMPETENCY CHECKLIST

TEACHING STRATEGIES and EVALUATION

METHODS AND PROCEDURES

- A. Lecture and discussion
- B. Demonstrations
- C. Individualized instruction
- D. Multimedia presentations

EVALUATION

SECTION A – Orientation and Safety – Pass the safety test with 100% accuracy.

SECTION B – Introduction to Hardware – Pass all assignments and exams on introduction to hardware with a minimum score of 80% or higher.

SECTION C – Electricity and Power – Pass all assignments and exams on electricity and power with a minimum score of 80% or higher.

SECTION D – Introduction to DOS – Pass all assignments and exams on introduction to DOS with a minimum score of 80% or higher.

SECTION E – Main System Board – Pass all assignments and exams on the main system board with a minimum score of 80% or higher.

SECTION F – Hard Disk Drive and Solid State Drive– Pass all assignments and exams on hard disk drive and solid state drive with a minimum score of 80% or higher.

SECTION G – Installing Hard Disk Drive– Pass all assignments and exams on installing hard disk drive with a minimum score of 80% or higher.

SECTION H – Memory – Pass all assignments and exams on memory with a minimum score of 80% or higher

SECTION I – Monitors – Pass all assignments and exams on monitors with a minimum score of 80% or higher

SECTION J – Peripherals – Pass all assignments and exams on peripherals with a minimum score of 80% or higher.

SECTION K – Basic Networking – Pass all assignments and exams on basic networking with a minimum score of 80% or higher.

SECTION L – Windows Operating System – Pass all assignments and exams on Windows operating system with a minimum score of 80% or higher.

SECTION M – Installation of Windows 10 or Later – Pass all assignments and exams on supporting Windows 10 or later with a minimum score of 80% or higher.

SECTION N – MAC Operating System – Pass all assignments and exams on the MAC operating system with a minimum score of 80% or higher.

SECTION O – Chrome Operating System – Pass all assignments and exams on the Chrome operating system with a minimum score of 80% or higher.

SECTION P – Troubleshooting Skills – Pass all assignments and exams on troubleshooting skills with a minimum score of 80% or higher.

SECTION Q – Employability Skills – Pass all assignments and exams on employability skills with a minimum score of 80% or higher.

Standards for Career Ready Practice

1. Apply appropriate technical skills and academic knowledge.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and performing other work-related practices.

2. Communicate clearly, effectively, and with reason.

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others: they are active listeners who speak clearly and with purpose, and they are comfortable with terminology that is common to workplace environments. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

3. Develop an education and career plan aligned with personal goals.

Career-ready individuals take personal ownership of their educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process, and they understand that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever-changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

4. Apply technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

5. Utilize critical thinking to make sense of problems and persevere in solving them

Career-ready individuals recognize problems in the workplace, understand the nature of the problems, and devise effective plans to solve the problems. They thoughtfully investigate the root cause of a problem prior to introducing solutions. They carefully consider options to solve a problem and, once agreed upon, follow through to ensure the problem is resolved.

6. Practice personal health and understand financial literacy.

Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

7. Act as a responsible citizen in the workplace and the community.

Career-ready individuals understand the obligations and responsibilities of being a member of a community and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them, and they think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond minimum expectations and in participating in activities that serve the greater good.

8. Model integrity, ethical leadership, and effective management.

Career-ready individuals consistently act in ways that align with personal and community-held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they recognize the short-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture.

9. Work productively in teams while integrating cultural and global competence.

Career-ready individuals contribute positively to every team, as both team leaders and team members. To avoid barriers to productive and positive interaction, they apply an awareness of cultural differences. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

10. Demonstrate creativity and innovation.

Career-ready individuals recommend ideas that solve problems in new and different ways and contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern which ideas and suggestions may have the greatest value. They seek new methods, practices, and ideas from a variety of sources and apply those ideas to their own workplace practices.

11. Employ valid and reliable research strategies.

Career-ready individuals employ research practices to plan and carry out investigations, create solutions, and keep abreast of the most current findings related to workplace environments and practices. They use a reliable research process to search for new information and confirm the validity of sources when considering the use and adoption of external information or practices.

12. Understand the environmental, societal, and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, and materials and adhere to regulations affecting the nature of their work. They are cognizant of impacts on the social condition, environment, workplace, and profitability of the organization.

Statement for Civil Rights

All educational and vocational opportunities are offered without regard to race, color, national origin, gender, or physical disability.



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