Georgia CTAE

Information Technology Essentials (11.41400) (2021)

Adopted 2021

Demonstrate employability skills required by business and industry. IT-ITE-1

1. **Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.** IT-ITE-1.1
2. **Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.** IT-ITE-1.2
3. **Exhibit critical thinking and problem-solving skills to locate, analyze and apply information in career planning and employment situations.** IT-ITE-1.3
4. **Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.** IT-ITE-1.4
5. **Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team-work skills.** IT-ITE-1.5
6. **Present a professional image through appearance, behavior, and language.** IT-ITE-1.6

Review and update personal online career portfolio. IT-ITE-2

1. **Review and update résumé to reflect new knowledge and skills mastery and additional work experience.** IT-ITE-2.1
2. **Compose an additional cover letter seeking employment for a position representative of new skills, knowledge, and work experience.** IT-ITE-2.2
3. **Replace outdated transcripts to reflect current courses successfully completed.** IT-ITE-2.3
4. **Review and revise existing artifacts to bring them up to date with new skills mastered, as necessary.** IT-ITE-2.4
5. **Identify and upload additional industry-appropriate artifacts reflective of mastered skills throughout this course. Write and include a reflective entry for each artifact discussing steps taken, problems encountered and how they were overcome, and other pertinent information about the learning.** IT-ITE-2.5

Work safely with a variety of workplace technologies to solve problems and operate an efficient workplace. IT-ITE-3	1. **Utilize multiple troubleshooting methods (remote and on-site) to identify problems, refine hypotheses, and repair computer systems.** IT-ITE-3.1 2. **Operate and maintain computer workstations in a computer repair lab.** IT-ITE-3.2 3. **Safely use diagnostic equipment in the computer repair lab.** IT-ITE-3.3 4. **Identify reference material appropriate to the computer industry that can serve as a resource for troubleshooting and using workplace technologies for productivity.** IT-ITE-3.4 5. **Apply appropriate troubleshooting techniques to identify hardware and software computer problems.** IT-ITE-3.5 6. **Research past, present, and future computer related technologies.** IT-ITE-3.6 7. **Utilize appropriate hardware and software troubleshooting tools to identify and isolate computer problems.** IT-ITE-3.7 8. **Understand appropriate record keeping for repair tracking and analysis of historical troubleshooting methodologies.** IT-ITE-3.8 9. **Develop a critical mindset towards lifecycle management of hardware, software, and associative tools.** IT-ITE-3.9
Identify the fundamental principles of personal computers by examining the hardware components and the interactions with component. IT-ITE-4	1. **Identify the names, describe the purpose of and with other computer hardware components, explain the function, and summarize the characteristics of storage devices, motherboards, power supplies, processor/ tablets/ CPUs, memory, display devices, input devices, adapter cards, ports and cables, and cooling systems.** IT-ITE-4.1 2. **Describe the different peripherals currently available as well as the installation and configured process to operate them.** IT-ITE-4.2
Install, configure, optimize, and upgrade personal computer components. IT-ITE-5	1. **Add, remove, and configure internal and external storage devices.** IT-ITE-5.1 2. **Recognize data integrity requirements for storage devices including both legal and historical record keeping purposes.** IT-ITE-5.2 3. **Describe how to preserve data from storage devices including long term storage and appropriate instances for reusing of storage media.** IT-ITE-5.3 4. **Drive preparation of internal storage devices including format/file systems and imaging technology.** IT-ITE-5.4 5. **Install display devices.** IT-ITE-5.5 6. **Add, remove, and configure basic input and multimedia devices.** IT-ITE-5.6

	7. **Recognize and isolate issues with display, power, basic input devices, storage, memory, thermal, and POST errors (e.g., Basic Input/Output System (BIOS), hardware).** IT-ITE-5.7
	8. **Apply basic troubleshooting techniques, remote and on-site, to check for problems (e.g., thermal issues, error codes, power connections including cables and/or pins, compatibility, functionality, software/drivers) with components.** IT-ITE-5.8
	9. **Develop an understanding of remote support software and remote troubleshooting.** IT-ITE-5.9
Use tools, diagnostic procedures and troubleshooting techniques for personal computer (PC) and laptop components. IT-ITE-6	1. **Recognize the basic aspects of troubleshooting theory.** IT-ITE-6.1
	2. **Identify and apply basic diagnostic procedures and troubleshooting techniques.** IT-ITE-6.2
	3. **Recognize and isolate issues with display, power, basic input devices, storage, memory, thermal, and POST errors (e.g., Basic Input/Output System (BIOS), hardware) to determine whether it is more advantageous to repair or replace.** IT-ITE-6.3
	4. **Apply basic troubleshooting techniques to check for problems (e.g., thermal issues, error codes, power connections including cables and/or pins, compatibility, functionality, software/drivers) with components to determine whether it is more advantageous to repair or replace.** IT-ITE-6.4
	5. **Recognize the names, purposes, characteristics, and appropriate application of tools.** IT-ITE-6.5
	6. **Develop an understanding of troubleshooting tiers and be able to describe the differentiation between the levels of troubleshooting such as Help Desk and Deskside Technicians.** IT-ITE-6.6
	7. **Use procedures and techniques to diagnose power conditions, video, keyboard, pointer, and wireless card issues.** IT-ITE-6.7
Perform preventive maintenance on personal computer components. IT-ITE-7	1. **Apply basic aspects of preventive maintenance theory.** IT-ITE-7.1
	2. **Apply common preventive maintenance techniques to computer components.** IT-ITE-7.2
	3. **Develop an understanding of software preventative maintenance cycles such as operating system (OS) patching, application patching, and security system patching.** IT-ITE-7.3
Install, configure, optimize, and upgrade	1. **Identify names, purposes, and characteristics of laptop-specific hardware.** IT-ITE-8.1

laptops and portable devices. IT-ITE-8	2. **Distinguish between mobile and desktop motherboards and processors including throttling, power management, and Wi-Fi.** IT-ITE-8.2 3. **Configure power management and the cooling of portable devices.** IT-ITE-8.3 4. **Demonstrate safe removal of laptop-specific hardware such as peripherals, hot-swappable external devices, and internal components.** IT-ITE-8.4
Install, configure, and upgrade operating systems. IT-ITE-9	1. **Explain the differences between operating systems (e.g. Mac, Windows, Linux) and describe operating system revision levels, including graphical user interface (GUI), system requirements, application, and hardware compatibility.** IT-ITE-9.1 2. **Identify names, purposes, and characteristics of the primary operating system components including registry, virtual memory, and file system.** IT-ITE-9.2 3. **Describe features of operating system interfaces.** IT-ITE-9.3 4. **Identify the names, locations, purposes, and characteristics of operating system files.** IT-ITE-9.4 5. **Identify concepts and procedures for creating, viewing, managing disks, directories, and files in operating systems.** IT-ITE-9.5 6. **State the functions of an operating system.** IT-ITE-9.6 7. **Apply procedures for upgrading and installing operating systems by installing and adding devices including loading device drivers and required software.** IT-ITE-9.7
Identify tools, diagnostic procedures, and troubleshooting techniques for operating systems. IT-ITE-10	1. **State and apply basic boot sequences, methods, and utilities for recovering operating systems.** IT-ITE-10.1 2. **Apply diagnostic procedures and troubleshooting techniques.** IT-ITE-10.2 3. **Resolve common operational issues such as blue screen, system lock-up, and Windows-specific printing problems (e.g., print spool stalled, incorrect/incompatible driver for print).** IT-ITE-10.3 4. **Explain common error messages and codes.** IT-ITE-10.4 5. **Identify the names, locations, purposes, and characteristics of operating system utilities.** IT-ITE-10.5 6. **Explain and identify ways to research online trouble shooting techniques.** IT-ITE-10.6

	7. **Perform preventive maintenance for operating systems using utilities for performing preventive maintenance on operating systems: for example, software and Windows updates (e.g., service packs), scheduled backups/restore, and restore points.** IT-ITE-10.7
Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events. IT-ITE-11	1. **Explain the goals, mission, and objectives of Future Business Leaders of America (FBLA) and/or Technology Student Association (TSA) and/or SkillsUSA.** IT-ITE-11.1 2. **Explore the impact and opportunities a student organization (FBLA, TSA, SkillsUSA) can develop to bring business and education together in a positive working relationship through innovative leadership and career development programs.** IT-ITE-11.2 3. **Explore the local, state, and national opportunities available to students through participation in related student organizations (FBLA, TSA, SkillsUSA) including but not limited to conferences, competitions, community service, philanthropy, and other student organization activities.** IT-ITE-11.3 4. **Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.** IT-ITE-11.4 5. **Explore the competitive events related to the content of this course and the required competencies, skills, and knowledge for each related event for individual, team, and chapter competitions.** IT-ITE-11.5