Technology Support and Services

Course Credit	1.0
Grade Levels	10-12
Prerequisites	Information Technology Fundamentals OR Programming Foundations

Technology Support and Services is designed to build on students' knowledge of computer hardware, operating systems, and computer software applications by providing the additional skills necessary to effectively plan, develop, and troubleshoot computer systems for end users. Topics addressed in this course include customer service, troubleshooting, system design and upgrading, and ethics.

Career and Technical Student Organizations are integral, co-curricular components of each career and technical education course. These organizations enhance classroom instruction while helping students develop leadership abilities, expand workplace readiness skills, and access opportunities for personal and professional growth. Students in the Information Technology cluster affiliate with SkillsUSA and/or TSA.

Foundational standards, shown in the table below, are an important part of every course. Through these standards, students learn and apply safety concepts, explore career opportunities and requirements, practice the skills needed to succeed in the workplace, develop leadership qualities and take advantage of the opportunities afforded by Career and Technical Student Organizations (CTSOs), and learn and practice essential digital literacy skills. The foundational standards are to be incorporated throughout the course.

Each foundational standard completes the stem *"**Students will**..."*

Foundational Standards	
	1. Incorporate safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces. 2. Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork.

3. Explore the range of careers available in the field and investigate their educational requirements, and demonstrate job-seeking skills including resume-writing and interviewing.
4. Advocate and practice safe, legal, responsible, and ethical use of information and technology tools specific to the industry pathway.
5. Participate in a Career and Technical Student Organization (CTSO) to increase knowledge and skills and to enhance leadership and teamwork.
6. Use technology to collaborate with peers and/or experts to create digital artifacts that can be published online for a target audience.
7. Formulate new ideas, solve problems, or create products through the design and engineering process by utilizing testing, prototypes, and user feedback.

TECHNOLOGY SUPPORT AND SERVICES CONTENT STANDARDS

Each content standard completes the stem *"**Students will**..."*

Customer Service

1. Develop short- and long-term budgets for information technology services for a given customer.
   Example: Research and price out a spending plan including amounts for supplies, preventive maintenance, repairs, hardware replacement, and hardware and software upgrades.
2. Apply active listening to determine customer needs and tailor a response that communicates resolutions to meet the needs of diverse clients and environments.

Troubleshooting	3. Document the resolution of problems, including both successful and unsuccessful steps taken when attempting to reach solutions. 4. Describe the process of incident reporting and explain its importance. 5. Identify potential safety hazards and take preventive action to maintain a safe environment. *Examples: cable management, surge protection, static discharge* 6. Formulate and document a support plan for a given situation, including the identification of system support requirements.
System Design and Upgrading	7. Manage network user accounts, assign account privileges, produce required documentation, and maintain training manuals in a given simulated environment. 8. Manage software systems, system configurations, and virus protection software. 9. Develop and produce a system design to meet end-user system requirements in a given scenario. 10. Evaluate software to recommend products that meet various system specifications and user requirements. 11. Install antivirus and malware software. 12. Perform routine and preventive maintenance on laptops and portable devices to maintain security and optimal operation. 13. Evaluate the technology equipment and requirements of a given business scenario to determine what upgrades are needed. *Examples: select new components, determine best purchase options to unify the type of computers considered*

Ethics and Security

14. Research and explain the importance of appropriate use of various electronic media and communication devices by individual employees within an enterprise organization.
    Example: role play or simulate a work scenario around current ethical issues, use of social media to promote organization mission or goals

15. Examine the advantages and disadvantages for employers of maintaining network security policies and protocols for network users within a given organization.
    Example: review of internet traffic, acceptable use policy, code of ethics, company security protocols

16. Demonstrate ethical customer service skills in a simulated work environment where personal identifiable information (PII) is accessible.
    Examples: network group policies ensuring that all PII is stored on secure systems
    a. Describe methods of protecting customers' privacy and confidential information.

17. Explain how technical support employees ensure confidentiality for an organization's other employees and give examples of unintentional security breaches and their consequences.

18. Explain the importance of information privacy practices for individual employees within an organization to ensure data integrity.
    Examples: protecting employee and customer information, disposing of confidential information appropriately