CTE Lab in Information Technology

Course Credit	1.0
Grade Levels	10-12
Prerequisites	Successful completion of any two courses in the Information Technology career cluster

CTE Lab in Information Technology is designed to enhance the student's general understanding and mastery of the cluster. This course is designed as a learning laboratory to support students' individual interests and goals. This laboratory may take place in a traditional classroom, in an industry setting, or in a virtual learning environment.

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.

CTE LAB IN INFORMATION TECHNOLOGY CONTENT STANDARDS

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

Occupational Expertise	1. Demonstrate expertise in a specific occupation within the Information Technology cluster. a. Meet benchmarks selected by the instructor from the appropriate curriculum frameworks, based upon the individual student's assessed needs.
Research and Presentation	2. Conduct investigative research on a selected topic related to information technology using approved research methodology, interpret findings, and prepare a presentation to defend results. a. Select an investigative study based on research and prior knowledge. b. Collect, organize, and analyze data accurately and precisely.

c. Design procedures to test the research.
d. Report, display, and defend the results of investigations to audiences that may include professionals and technical experts.

3. Demonstrate higher order critical thinking and reasoning skills appropriate for a career in information technology.
    a. Use mathematical and/or scientific skills to solve problems encountered in the chosen occupation.
    b. Locate, evaluate, and interpret information related to the chosen occupation in oral, print, and digital formats.
    c. Analyze and apply data and/or measurements to solve problems and interpret documents.
    d. Construct charts, tables, or graphs using functions and data.

Leadership

4. Apply enhanced leadership and professional career skills needed in information technology careers.
    a. Develop and present a professional presentation offering potential solutions to a current issue.
    b. Demonstrate leadership and career skills in job placement, job shadowing, entrepreneurship, or internship, or by obtaining an industry-recognized credential of value.
    c. Participate in leadership development opportunities available through the appropriate student organization and/or professional organizations in the information technology field.
    d. Demonstrate written and oral communication skills through presentations, public speaking, live or virtual interviews, and/or an employment portfolio.