Massachusetts CTE

Vocational Technical Education Standardized Strands: Frameworks Strands 1, 4, 5 & 6

Strand 1: Safety and Health Knowledge and Skills 1

A Fundamentals of Health and Safety 1.A

01 Describe and apply health and safety regulations. 1.A.01

01 Identify, describe and apply health and safety regulations that apply to specific tasks and jobs. Students must complete a safety credential program, e.g., Occupational Safety and Health Administration 10, CareerSafe and ServSafe. 1.A.01.01

02 Identify, describe and apply Environmental Protection Agency (EPA) and other environmental protection regulations that apply to specific tasks and jobs in the specific occupational area. 1.A.01.02

03 Identify, describe and apply Right-To-Know (Hazard Communication Policy) and other communicative regulations that apply to specific tasks and jobs in the specific occupational area. 1.A.01.03

04 Explain procedures for documenting and reporting hazards to appropriate authorities. 1.A.01.04

05 Identify and describe potential consequences for non-compliance with appropriate health and safety regulations. 1.A.01.05

06 Identify and list contact information for appropriate health and safety agencies and resources. 1.A.01.06

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02 Demonstrate appropriate health and safety practices based on the specific occupational area. 1.A.02

01 Identify, describe and demonstrate the effective use of Safety Data Sheets (SDS). 1.A.02.01

02 Read and interpret chemical, product and equipment labels to determine appropriate health and safety considerations. 1.A.02.02

03 Identify, describe and demonstrate personal, shop and job site safety practices and procedures. 1.A.02.03

04 Demonstrate safe dress and use of relevant safety gear, personal protective equipment (PPE) and ergonomics, e.g., wrist rests, adjustable workspaces, equipment, gloves, proper footwear, earplugs, eye protection and breathing apparatus. 1.A.02.04

05 Demonstrate appropriate safe body mechanics, including appropriate lifting techniques and ergonomics. 1.A.02.05

06 Locate emergency equipment, first aid kit, SDS information directories and emergency action/response plan/escape routes in your lab, shop and classroom, including labels and signage that follow OSHA Hazard Communication Program (HAZCOM), eyewash stations, shower facilities, sinks, fire extinguishers, fire blankets, telephone, master power switches and emergency exits. 1.A.02.06

07 Demonstrate the safe use, storage, and maintenance of every piece of equipment in the lab, shop and classroom, e.g., the OSHA Lockout/Tagout Program (LOTO). 1.A.02.07

08 Describe safety practices and procedures to be followed when working with and around electricity, e.g., ground fault circuit interrupter (GFCI) and frayed wiring. 1.A.02.08

09 Handle, store, dispose of and recycle hazardous, flammable and combustible materials, according to EPA, OSHA and product specifications. 1.A.02.09

10 Demonstrate appropriate workspace cleaning, sanitation, disinfection and sterilization procedures required in specific occupational areas, e.g., Workplace Housekeeping OSHA Regulations. 1.A.02.10

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03 Demonstrate appropriate responses to situations that may threaten health and safety. 1.A.03

01 Describe First Aid procedures for potential injuries and other health concerns in the specific occupational area. 1.A.03.01

02 Describe the importance of emergency preparedness and an emergency action/response plan. 1.A.03.02

03 Describe procedures used to handle emergency situations, defensive measures and accidents, including identification, reporting, response, evacuation plans and follow-up procedures. 1.A.03.03

04 Identify, describe and demonstrate safety practices in specific occupational areas used to avoid accidents. 1.A.03.04

05 Identify and describe fire protection, protection, precautions and response procedures. 1.A.03.05

06 Discuss the role of the individual and the company/organization in ensuring workplace safety including transportation to and from school, school activities and the workplace. 1.A.03.06

07 Discuss ways to identify, prevent and report school and workplace violence, discrimination, harassment and bullying. 1.A.03.07

08 Demonstrate positive and appropriate behavior that contributes to a safe and healthy environment in school and the workplace. 1.A.03.08

Strand 4: Employability and Career Readiness 4

A Career Exploration and Navigation 4.A

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01 Develop a career plan and portfolio. 4.A.01

- 01 Develop and revise career plan annually based on workplace awareness and skill attainment. 4.A.01.01
- 02 Assess personal strengths and interest areas to determine potential careers, career pathways and career ladders. 4.A.01.02
- 03 Examine potential career field(s)/discipline(s) and identify criteria to select, secure and keep employment in chosen field(s). 4.A.01.03
- 04 Research and evaluate a variety of careers utilizing multiple sources of information and resources to determine potential career(s) and alternatives. 4.A.01.04
- 05 Identify training and education requirements that lead to employment in chosen field(s) and demonstrate skills related to evaluating employment opportunities. 4.A.01.05
- 06 Explore and evaluate postsecondary educational opportunities including degrees and certifications available, traditional and nontraditional postsecondary pathways, technical school and apprenticeships, cost of education, financing methods including scholarships and loans and the cost of loan repayment. 4.A.01.06
- 07 Create a portfolio showcasing academic and career growth including a career plan, safety credential, resume and a competency profile demonstrating the acquisition of the knowledge and skills associated with at least two years of full-time study in the Chapter 74 program. 4.A.01.07

02 Demonstrate job search skills. 4.A.02

- 01 Conduct a job search and complete written and electronic job applications, resumes, cover letters and related correspondence for a chosen career path. 4.A.02.01
- 02 Explore and evaluate postsecondary job opportunities and career pathways specific to career technical areas. 4.A.02.02
- 03 Identify role and use of social media and networking for staying current with career and employment trends as well as networking, job seeking and career development opportunities. 4.A.02.03
- 04 Demonstrate ability to use social media and networking to develop useful occupational contacts, job seeking and career development opportunities. 4.A.02.04

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03 Demonstrate all phases of the job interview process. 4.A.03

01 Gather relevant information about potential employer(s) from multiple print and digital sources, assessing the credibility and accuracy of each source. 4.A.03.01

02 Identify employment eligibility criteria, such as drug/alcohol free status, clean driving record, etc. 4.A.03.02

03 Practice effective interviewing skills: appearance, inquiry and dialogue with interviewer, positive attitude and evidence of work ethic and skills. 4.A.03.03

04 Explore and evaluate employment benefit packages including wages, vacation, health care, union dues, cafeteria plans, tuition reimbursement, retirement and 401K. 4.A.03.04

B Communication in the Workplace 4.B

01 Demonstrate appropriate oral and written communication skills in the workplace. 4.B.01

01 Communicate effectively using the language and vocabulary appropriate to a variety of audiences within the workplace including coworkers, supervisors and customers. 4.B.01.01

02 Read technical and work-related documents and demonstrate understanding in oral discussion and written exercise. 4.B.01.02

03 Demonstrate professional writing skills in work-related materials and communications (e.g., letters, memoranda, instructions and directions, reports, summaries, notes and/or outlines). 4.B.01.03

04 Use a variety of writing/publishing/presentation applications to create and present information in the workplace. 4.B.01.04

05 Identify, locate, evaluate and use print and electronic resources to resolve issues or problems in the workplace. 4.B.01.05

06 Use a variety of financial and data analysis tools to analyze and interpret information in the workplace. 4.B.01.06

07 Orally present technical and work-related information to a variety of audiences. 4.B.01.07

08 Identify and demonstrate professional non-verbal communication. 4.B.01.08

02 Demonstrate active listening skills. 4.B.02

01 Listen attentively and respectfully to others. 4.B.02.01

02 Focus attentively, make eye contact or other affirming gestures, confirm understanding and follow directions. 4.B.02.02

03 Show initiative in improving communication skills by asking follow-up questions of speaker in order to confirm understanding. 4.B.02.03

C Work Ethic and Professionalism 4.C

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01 Demonstrate attendance and punctuality. 4.C.01

- 01 Identify and practice professional time-management and attendance behaviors including punctuality, reliability, planning and flexibility. 4.C.01.01

02 Demonstrate proper workplace appearance. 4.C.02

- 01 Identify and practice professional appearance specific to the workplace. 4.C.02.01
- 02 Identify and practice personal hygiene appropriate for duties specific to the workplace. 4.C.02.02
- 03 Identify and wear required safety gear specific to the workplace. 4.C.02.03

03 Accepts direction and constructive criticism. 4.C.03

- 01 Demonstrate ability (both verbally and non-verbally) to accept direction and constructive criticism and to implement solutions to change behaviors. 4.C.03.01
- 02 Ask appropriate questions to clarify understanding of feedback. 4.C.03.02
- 03 Analyze own learning style and seek instructions in a preferred format that works best for their understanding (such as oral, written or visual instruction). 4.C.03.03

04 Demonstrate motivation and initiative. 4.C.04

- 01 Evaluate assigned tasks for time to completion and prioritization. 4.C.04.01
- 02 Demonstrate motivation through enthusiasm, engagement, accurate completion of tasks and activities. 4.C.04.02
- 03 Demonstrate initiative by requesting new assignments and challenges. 4.C.04.03
- 04 Explain proposed solutions to challenges observed in the workplace. 4.C.04.04
- 05 Demonstrate the ability to evaluate multiple solutions to problems and challenges using critical reasoning and workplace/industry knowledge and select the best solution to the problem. 4.C.04.05
- 06 Implement solution(s) to challenges and/or problem(s) observed in the workplace. 4.C.04.06
- 07 See projects through completion and check work for quality and accuracy. 4.C.04.07

05 Demonstrate awareness of workplace culture and policy. 4.C.05

- 01 Display ethical behavior in use of time, resources, computers and information. 4.C.05.01
- 02 Identify the mission of the organization and/or department. 4.C.05.02
- 03 Explain the benefits of a diverse workplace. 4.C.05.03
- 04 Demonstrate a respect for diversity and its benefit to the workplace. 4.C.05.04

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06 Interact appropriately with coworkers. 4.C.06

01 Work productively with individuals and in teams. 4.C.06.01

02 Develop positive mentoring and collaborative relationships within work environment. 4.C.06.02

03 Show respect and collegiality, both formally and informally. 4.C.06.03

04 Explain and follow workplace policy on the use of cell phones and other forms of social media. 4.C.06.04

05 Maintain focus on tasks and avoid negative topics or excessive personal conversations in the workplace. 4.C.06.05

06 Negotiate solutions to interpersonal and workplace conflicts. 4.C.06.06

Strand 5: Management and Entrepreneurship Knowledge and Skills 5

A Starting a Business 5.A

01 Demonstrate an understanding of the practices required to start a business. 5.A.01

01 Define entrepreneurship and be able to recognize and describe the characteristics of an entrepreneur. 5.A.01.01

02 Compare and contrast types of business ownership (i.e., sole proprietorships, franchises, partnerships, corporations). 5.A.01.02

03 Identify and explain the purpose and contents of a business plan. 5..01.03

04 Demonstrate an understanding of the principles and concepts of a business's supply chain (i.e., suppliers, producers and consumers. 5.A.01.04

B Managing a Business 5.B

01 Demonstrate an understanding of managing a business. 5.B.01

01 Formulate short- and long-term business goals. 5.B.01.01

02 Demonstrate effective verbal, written and visual communication skills. 5.B.01.02

03 Utilize a decision-making process to make effective business decisions. 5.B.01.03

04 Identify a business's chain of command and define its organizational structure. 5.B.01.04

05 Identify and apply effective customer service skills and practices. 5.B.01.05

06 Identify, interpret and develop written operating procedures and policies. 5.B.01.06

07 Track inventory, productivity and labor cost. 5.B.01.07

08 Demonstrate business meeting skills. 5.B.01.08

09 Identify professional organizations and explore their benefits. 5.B.01.09

Marketing a Business 5.C

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01 Demonstrate an understanding of marketing and promoting a business. 5.C.01

01 Explain the role of business in the economy. 5.C.01.01

02 Describe the relationship between business and community. 5.C.01.02

03 Describe methods of market research and identifying target markets. 5.C.01.03

04 Describe and apply the concepts of a marketing mix (the 4Ps of marketing: product, price, place and promotion). 5.C.01.04

05 Compare and contrast the promotional tools and techniques used to sell products, services, images and ideas. 5.C.01.05

06 Describe the impact of supply and demand on a product or business. 5.C.01.06

07 Identify direct and indirect competition on a business. 5.C.01.07

08 Identify and use sales techniques to meet client needs and wants. 5.C.01.08

09 Discuss strategies to acquire and retain a customer base. 5.C.01.09

D Financial Concepts and Applications in Business 5.D

01 Demonstrate an understanding of financial concepts and applications. 5.D.01

01 Identify essential financial reports and understand their purpose (i.e., budget, balance sheet and income statement). 5.D.01.01

02 Describe payroll practices (i.e., deductions – federal, FICA and state taxes and insurances). 5.D.01.02

03 Identify the importance of maintaining accurate records. 5.D.01.03

04 Apply practices related to pricing, purchasing and billing. 5.D.01.04

05 Maintain and reconcile a checking account. 5.D.01.05

06 Identify the options for funding a business. 5.D.01.06

E Legal/Ethical/Social Responsibilities 5.E

01 Demonstrate an understanding of legal, ethical and social responsibility for businesses. 5.E.01

01 Identify state and federal laws and regulations related to managing a business. 5.E.01.01

02 Describe and identify ethical business practices. 5.E.01.02

03 Demonstrate an understanding of business contracts. 5.E.01.03

04 Explain the role of diversity in the workplace. 5.E.01.04

05 Explain the role of labor organizations. 5.E.01.05

06 Identify practices that support clean energy technologies and encourage environmental sustainability. 5.E.01.06

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07 Demonstrate an understanding of how technology advancements impact business practices. 5.E.01.07

Strand 6: Technology Literacy Knowledge and Skills 6

A Technology Literacy Knowledge and Skills 6.A

01 Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity. 6.A.01

- 01 Use online help and other support to learn about features of hardware and software, as well as to assess and resolve problems. 6.A.01.01
- 02 Install and uninstall software; compress and expand files (if the district allows it). 6.A.01.02
- 03 Explain effective backup and recovery strategies. 6.A.01.03
- 04 Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials. 6.A.01.04
- 05 Use editing features appropriately (e.g., track changes, insert comments). 6.A.01.05
- 06 Identify the use of word processing and desktop publishing skills in various careers. 6.A.01.06
- 07 Identify the use of database skills in various careers. 6.A.01.07
- 08 Define and use functions of a spreadsheet application (e.g., sort, filter, find). 6.A.01.08
- 09 Explain how various formatting options are used to convey information in charts or graphs. 6.A.01.09
- 10 Identify the use of spreadsheet skills in various careers. 6.A.01.10
- 11 Use search engines and online directories. 6.A.01.11
- 12 Explain the differences among various search engines and how they rank results. 6.A.01.12
- 13 Explain and demonstrate effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators). 6.A.01.13
- 14 Describe good practices for password protection and authentication. 6.A.01.14

02 Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society. 6.A.02

- 01 Demonstrate compliance with the school's Acceptable Use Policy. 6.A.02.01
- 02 Explain issues related to the responsible use of technology (e.g., privacy, security). 6.A.02.02
- 03 Explain laws restricting the use of copyrighted materials. 6.A.02.03
- 04 Identify examples of plagiarism, and discuss the possible consequences of plagiarizing the work of others. 6.A.02.04

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03 Design and implement a personal learning plan that includes the use of technology to support lifelong learning goals. 6.A.03

- 01 Evaluate the authenticity, accuracy, appropriateness, and bias of electronic resources, including Web sites. 6.A.03.01
- 02 Analyze the values and points of view that are presented in media messages. 6.A.03.02
- 03 Describe devices, applications, and operating system features that offer accessibility for people with disabilities. 6.A.03.03
- 04 Evaluate school and work environments in terms of ergonomic practices. 6.A.03.04
- 05 Describe and use safe and appropriate practices when participating in online communities (e.g., discussion groups, blogs, social networking sites). 6.A.03.05
- 06 Explain and use practices to protect one's personal safety online (e.g., not sharing personal information with strangers, being alert for online predators, reporting suspicious activities). 6.A.03.06
- 07 Explain ways individuals can protect their technology systems and information from unethical users. 6.A.03.07

04 Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation. 6.A.04

- 01 Devise and demonstrate strategies for efficiently collecting and organizing information from electronic sources. 6.A.04.01
- 02 Compare, evaluate, and select appropriate electronic resources to locate specific information. 6.A.04.02
- 03 Select the most appropriate search engines and directories for specific research tasks. 6.A.04.03
- 04 Use a variety of media to present information for specific purposes (e.g., reports, research papers, presentations, newsletters, Web sites, podcasts, blogs), citing sources. 6.A.04.04
- 05 Demonstrate how the use of various techniques and effects (e.g., editing, music, color, rhetorical devices) can be used to convey meaning in media. 6.A.04.05
- 06 Use online communication tools to collaborate with peers, community members, and field experts as appropriate (e.g., bulletin boards, discussion forums, listservs, Web conferencing). 6.A.04.06
- 07 Plan and implement a collaborative project with students in other classrooms and schools using telecommunications tools (e.g., e-mail, discussion forums, groupware, interactive Web sites, video conferencing). 6.A.04.07