

**§127.XX. Occupational Safety and Health (One Credit).**

- (a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2023-2024 school year.
- (b) General requirements. This course is recommended for students in Grades 9-12. Students shall be awarded one credit for successful completion of this course.
- (c) Introduction.
  - (1) Career and technical education instruction provides content aligned with challenging academic standards, industry-relevant technical knowledge, and college and career readiness skills for students to further their education and succeed in current and emerging professions.
  - (2) The goal of Occupational Safety and Health is for students to gain a strong foundation of safety consciousness in the workplace to increase safety and health and reduce the occurrence of job-related injuries and fatalities.
  - (3) Students are encouraged to apply their experiences on a jobsite to the knowledge and skills taught in this course.
  - (4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
  - (5) The knowledge and skills gained in this course are applicable to all programs of study and career clusters.
  - (6) Statements that contain the word “including” reference content that must be mastered, while those containing the phrase “such as” are intended as possible illustrative examples.
- (d) Knowledge and skills.
  - (1) The student applies professional standards and employability skills as required by business and industry. The student is expected to:
    - (A) model ethical conduct in complex situations;
    - (B) model a respectful and professional attitude when interacting with diverse populations, colleagues, and professionals;
    - (C) apply self-management skills such as stress and change management;
    - (D) apply interpersonal skills, including negotiation skills, conflict resolution, customer service, and teamwork;
    - (E) practice problem-solving skills in respect to complex ethical decision making; and
    - (F) compare unethical and illegal conduct in the workplace.
  - (2) The student evaluates the roles and responsibilities of occupational safety and health professions. The student is expected to:
    - (A) explain the role of occupational safety and health professionals in various occupational settings;
    - (B) identify career development and entrepreneurship opportunities in occupational safety and health; and
    - (C) investigate and discuss opportunities to earn a credential and certification in the field of occupational safety and health.

- (3) The student understands the foundations of occupational safety and health. The student is expected to:
- (A) identify and discuss workers' rights to participate in activities that support a safe and healthy workplace such as having access to appropriate training and the ability to communicate safety concerns;
  - (B) explain and discuss the roles and responsibilities of workers and employers in creating a safe workplace;
  - (C) give examples of responsibilities of workers and employers that promote safety and health in the workplace;
  - (D) explain and discuss the importance of the Occupational Safety and Health Act (OSHA) standards and OSHA requirements for organizations as well as national and state regulatory entities such as the National Institute of Occupational Safety and Health, Center for Disease Control, National Center for Construction Education and Research, Texas Workforce Commission, and Texas Department of Insurance;
  - (E) identify and discuss how workplace health and safety resources, including emergency plans and Safety Data Sheets (SDS), are used to make decisions in the workplace; and
  - (F) apply OSHA's General Duty Clause to various workplace situations and common citations.
- (4) The student understands industrial hygiene and how it applies to improving occupational safety. The student is expected to:
- (A) define industrial hygiene in the workplace;
  - (B) identify warning signs of exposure to types of occupational health hazards, including physical, chemical, biological, and ergonomic;
  - (C) evaluate types of occupational health hazards, including physical, chemical, biological, and ergonomic;
  - (D) differentiate between health issues caused by workplace factors and those caused from pre-existing conditions; and
  - (E) identify ways to reduce, remove, and control different types of health hazards at work.
- (5) The student analyzes and interprets workplace safety and health programs to identify elements, project costs, and propose solutions that benefit employers and employees. The student is expected to:
- (A) compare accident types such as those caused by human error like poor judgement or memory lapse;
  - (B) describe how injury, illness, and accidents can potentially impact an organization or workplace;
  - (C) describe the elements of a safety and health program, including management leadership, worker participation, hazard identification and assessment, hazard prevention and control, education and training, and program evaluation and improvement;
  - (D) identify some of the direct and indirect costs of work-related hazards; and
  - (E) discuss the benefits of implementing an effective safety and health program.
- (6) The student knows the importance of personal protective equipment (PPE). The student is expected to:
- (A) explain the purpose and benefits of protection of the body, including the eyes, face, head, feet, arms, hands, and torso;

- (B) explain and discuss the role an employer plays in practicing proper maintenance and sanitation of protective devices and in training employees to properly use personal protective equipment (PPE);
  - (C) explain the employee's responsibility in choosing and using PPE; and
  - (D) identify and explain the appropriate use of types of PPE used in general industry.
- (7) The student describes the science of ergonomics, identifies ergonomic problems in a variety of workplace settings, and applies control methods to reduce work-related musculoskeletal disorders (WMSDs). The student is expected to:
- (A) summarize and discuss the science and history of ergonomics;
  - (B) describe the three organizational domains of ergonomics, including physical, cognitive, and organizational, and identify the primary body systems involved in the three domains;
  - (C) identify common WMSDs and evaluate risk factors associated with WMSDs;
  - (D) identify and discuss control methods for reducing WMSDs; and
  - (E) develop an ergonomic workplace design based on OSHA standards.
- (8) The student analyzes walking and working surfaces and fall hazards and applies prevention and protection strategies to create safer working environments. The student is expected to:
- (A) research and analyze hazards in the workplace associated with walking and working surfaces and falling;
  - (B) identify and discuss best practices for preventing or reducing slips, trips, and falls in the workplace; and
  - (C) investigate and explain employer requirements to protect workers from walking and working surface hazards and fall hazards.
- (9) The student understands the properties of hazardous materials and the fundamental principles of hazardous material safety and management. The student is expected to:
- (A) research and analyze hazardous materials commonly found in workplace settings and the materials' physical properties;
  - (B) describe ways in which hazardous materials can enter the body;
  - (C) identify physical and health hazards associated with exposure to hazardous materials and compare hazards based on level of exposure; and
  - (D) identify and discuss ways to reduce exposure to hazardous materials in the workplace.
- (10) The student knows how to locate and communicate pertinent information about hazardous materials using the Hazard Communication Standard (HCS) and Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The student is expected to:
- (A) compare the HCS and GHS and analyze employer responsibilities under each system;
  - (B) locate and communicate pertinent information on chemical labels and safety data sheets to ensure "right to understanding" provisions of the GHS requirements;
  - (C) explain the components of a hazard communication program, including requirements of hazard communication labels;
  - (D) explain the role of a workplace hazard control committee and its contributions to the success of hazard control in the workplace; and
  - (E) compare effective and ineffective hazard control methods.

- (11) The student understands the processes and precautions for handling hazardous materials. The student is expected to:
- (A) analyze the hazards of handling, storing, using, and transporting hazardous materials;
  - (B) identify and discuss the proper use of different types of tools, supplies, and equipment used for material handling;
  - (C) research and analyze the regulations that govern handling, storing, using, disposing, and transporting hazardous materials; and
  - (D) identify key elements of material handling, storage, use, and disposal safety plans and discuss how they relate to an employer's responsibilities to protect workers from material handling hazards.
- (12) The student knows and applies bloodborne pathogen safety and control methods. The student is expected to:
- (A) investigate and describe bloodborne pathogens and risks of exposure and identify workers most at risk;
  - (B) describe methods for controlling exposure to bloodborne pathogens;
  - (C) evaluate key aspects of a bloodborne pathogen exposure control plan; and
  - (D) describe the steps to take when exposed to a bloodborne pathogen.
- (13) The student understands the risks associated with electrical hazards found on a jobsite and applies control methods to increase safety and health. The student is expected to:
- (A) describe types of electrical hazards in the workplace and associated risks;
  - (B) evaluate methods to prevent electrical hazards, including lockout and tagout procedures; and
  - (C) research and discuss OSHA standards regarding electrical hazards.
- (14) The student evaluates tool and machine guarding as part of a safety and health plan. The student is expected to:
- (A) identify the tools and machines commonly used by workers on a hazardous worksite and describe the machinery parts that expose workers to hazards;
  - (B) describe and analyze the main causes of machinery accidents and situations that require machine guarding;
  - (C) identify and describe steps to reduce tool and machine hazards; and
  - (D) research and discuss OSHA standards for tool and machine safeguards in the workplace and an employer's related responsibilities.
- (15) The student understands general powered industrial truck safety operations and applies the information to employer safety and health programs. The student is expected to:
- (A) compare characteristics of powered industrial trucks and the risks associated with these machines;
  - (B) describe general powered industrial truck operation safety using OSHA information and checklists; and
  - (C) research examples of employer safety and health programs to discuss steps to reduce hazards related to powered industrial trucks.

- (16) The student explains the relationship among fire behavior, fire extinguishing and protection systems, and fire protection plans. The student is expected to:
- (A) identify and describe heat energy sources such as chemical, electrical, mechanical, and nuclear, and heat transfer methods;
  - (B) describe the classes and stages of fires;
  - (C) describe possible deficiencies in fire safety;
  - (D) evaluate methods for extinguishing fires; and
  - (E) identify and describe the elements of a fire protection plan based on OSHA standards.
- (17) The student applies industrial hygiene and safety and health management to welding, cutting, and brazing industries. The student is expected to:
- (A) analyze different types of hazards related to welding, cutting, and brazing and explain the concept of hot work;
  - (B) research and evaluate the OSHA standards for welding, cutting, and brazing;
  - (C) compare standards for welding, cutting, and brazing with fire prevention and protection standards; and
  - (D) describe how welding, cutting, and brazing standards are incorporated into employer safety programs to improve industrial hygiene.
- (18) The student examines the positive impact of emergency management in the workplace. The student is expected to:
- (A) identify and discuss types of emergencies that should be addressed in emergency plans, including fire, toxic chemical release, weather, and workplace violence;
  - (B) compare conditions under which evacuation and shelter-in-place actions may be necessary in an emergency situation;
  - (C) explain the importance of emergency exits and emergency lighting;
  - (D) describe the purpose and importance of a written emergency action plan in the workplace; and
  - (E) assess emergency plans using information gathered through mock emergency drills.
- (19) The student understands the role of a health and safety representative in inspections and knows the importance of having an effective accident reporting process. The student is expected to:
- (A) identify the reasons for, priorities of, and components to an OSHA inspection;
  - (B) evaluate the role of internal periodic inspections for work site safety and hazard control;
  - (C) compare reasons and methods for conducting internal inspections and OSHA inspections;
  - (D) identify hazards, injuries, and accidents to be tracked and evaluate the importance of maintaining records of these incidents;
  - (E) describe the roles of an accident log, accident form, and accident report in accident investigation;
  - (F) develop an accident report form and a process for completing and submitting the form;
  - (G) research and discuss examples of corrective actions taken for common OSHA violations; and
  - (H) define organizational culture and its impact on accident prevention efforts.

- (20) The student understands how the purposeful engineering of the workplace can reduce work related risks. The student is expected to:
- (A) discuss and explain the significance of safety engineering to the hierarchy of controls;
  - (B) evaluate common workplace design flaws that lead to reduced safety and health; and
  - (C) investigate and describe how engineering for safety has improved industrial hygiene and created a safer workplace over time.
- (21) The student applies best practices for occupational safety and health training. The student is expected to:
- (A) explain safety and health training requirements specified by standard setting organizations;
  - (B) research and identify best practices in safety and health training; and
  - (C) describe strategies for communicating safety and health training in the workplace.