

§127.832. Occupational Safety and Compliance (One Credit), Adopted 2025.

- (a) Implementation.
 - (1) The provisions of this section may be implemented by school districts beginning with the 2026-2027 school year.
 - (2) School districts shall implement the employability skills student expectations listed in §127.15(d)(1) of this chapter (relating to Employability Skills) as an integral part of this course.
- (b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Principles of Transportation Systems, Principles of Distribution and Logistics, or Principles of Manufacturing. 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 and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
 - (2) The Manufacturing Career Cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.
 - (3) In Occupational Safety and Environmental Technology, students build foundational knowledge related to the fields of occupational safety, health, and compliance. Students learn about the Occupational Safety and Health Administration (OSHA), which is charged with the tasks of ensuring that employers provide a safe workplace that is free from recognized hazards, promote health and safety in the workplace, and reduce the occurrence of on-the-job injuries, illnesses, and fatalities. Students use safety resources and discover procedures for collaborating with business and industry regarding ways to increase employee safety and health.
 - (4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other organizations that foster leadership and career development in the profession such as student chapters of related professional associations.
 - (5) 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 understands career options and educational requirements in occupational safety and environmental technology. The student is expected to:
 - (A) describe the impact of internships, career development, and entrepreneurship opportunities in occupational safety and environmental technology;
 - (B) identify and analyze career advancement opportunities in occupational safety and environmental technology at various levels in an organization such as employee, supervisor, and manager; and
 - (C) identify and explain requirements to obtain professional credentials such as a Certified Safety Professional (CSP), Associate Safety Professional (ASP), Construction Health and Safety Technician (CHST), Occupational Hygiene and Safety Technician (OHST), Certified Hazardous Materials Manager (CHMM), Certified Environmental Manager (CEM), and Board of Certified Safety Professionals (BCSP) in the fields of occupational safety and health and environmental compliance.
 - (2) The student understands the legal responsibilities of work safety in a hazardous work environment. The student is expected to:

- (A) explain and discuss responsibilities of workers and employers to promote safety and health in the workplace;
 - (B) explain the OSHA general duty clause and the rights of workers to a safe and healthy workplace;
 - (C) explain and discuss the importance of OSHA standards and requirements for organizations;
 - (D) explain the role of industrial hygiene in occupational health and safety and describe various types of industrial hygiene hazards, including physical, chemical, airborne, excessive noise, physiological, biological, and ergonomic hazards;
 - (E) identify types and explain appropriate use of personal protective equipment (PPE) used in industry;
 - (F) explain the importance of safe walking and working surfaces in the workplace and identify best practices for preventing or reducing slips, trips, and falls in the workplace;
 - (G) describe types of electrical hazards in the workplace and risks associated with these hazards;
 - (H) describe control methods to prevent electrical hazards in the workplace;
 - (I) analyze hazards of handling, storing, using, and transporting hazardous materials;
 - (J) identify and discuss ways to reduce exposure to hazardous materials in the workplace;
 - (K) identify workplace health and safety resources, including emergency plans and Safety Data Sheets (SDS);
 - (L) discuss how emergency plans and SDSs are used to make decisions in the workplace;
 - (M) describe elements of a safety and health program, including management leadership, worker participation, and training;
 - (N) explain the purpose and importance of written emergency action and fire protection plans;
 - (O) describe key components of written emergency action and fire protection plans such as evacuation plans and emergency exit routes, list of fire hazards, and identification of emergency personnel;
 - (P) explain components of a hazard communication program; and
 - (Q) explain and give examples of safety and health training requirements specified by standard setting organizations such as American Conference of Governmental Industrial Hygienists (ACGIH), American National Standard Institute (ANSI), National Institute for Occupational Safety and Health (NIOSH), and Board of Certified Safety Professionals (BCSP).
- (3) The student analyzes the federal and state agencies that create and enforce environmental laws. The student is expected to:
- (A) identify the objectives of the U.S. Environmental Protection Agency (EPA);
 - (B) identify the objectives of the Texas Commission on Environmental Quality (TCEQ);
 - (C) describe how the EPA and the TCEQ monitor compliance and enforce regulations; and
 - (D) identify and describe federal environmental acts, including Endangered Species Act (ESA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund); and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

- (4) The student investigates common safety measures and processes. The student is expected to:
- (A) explain the significance of periodic and effective inspections for hazard control;
 - (B) describe the processes for reporting a hazard or accident to an immediate supervisor;
 - (C) explain the value of training programs that promote awareness of safety policies and procedures in the workplace;
 - (D) select appropriate PPE such as safety glasses, face shields, aprons, and gloves based on workplace requirements;
 - (E) summarize the purpose of protecting the body, including eyes, face, head, feet, arms, hands, ears, and torso;
 - (F) identify and describe specific causes of an incident;
 - (G) explain the necessity of a comprehensive safety program;
 - (H) outline principles of housekeeping, including order and cleanliness; and
 - (I) describe how a disorganized workplace, litter, and debris can create unsafe conditions that lead to accidents and illness in the workplace.
- (5) The student demonstrates knowledge of workplace security and violence prevention concepts. The student is expected to:
- (A) identify and describe potential types of workplace security events;
 - (B) identify and describe strategies to enhance workplace security; and
 - (C) identify and describe strategies to prevent workplace violence.
- (6) The student investigates the science of ergonomics in the workplace. The student is expected to:
- (A) define ergonomics;
 - (B) explain how the science of ergonomics is used in various industries such as manufacturing, construction, medical, and energy;
 - (C) evaluate workplace tasks to identify potential ergonomic problems related to body positions, including posture and awkward positions, and body movements, including repetitive movement, applying extreme force, reaching, pushing, pulling, bending, and weightlifting;
 - (D) describe primary body systems impacted by ergonomics; and
 - (E) evaluate workplace conditions that can produce physical, cognitive, and emotional fatigue.
- (7) The student recognizes and mitigates industrial hygiene and occupational health hazards that lead to injury and illness related to exposure in the workplace. The student is expected to:
- (A) explain the role of industrial hygiene in occupational safety;
 - (B) describe the process to identify hazards using methods, including reviewing chemical inventories and evaluating potential hazards associated with chemicals found in the workplace;
 - (C) identify and describe various categories of industrial hygiene hazards;
 - (D) compare various types of workplace hazards, including biological, chemical, ergonomic, physical, and psychosocial;
 - (E) identify categories of hazardous substances and describe short- and long-term health effects resulting from exposure to each hazardous substance;
 - (F) explain industrial hygiene and occupational exposures concepts, including acute and chronic exposures; and

- (G) describe essential responsibilities of supervisors, managers, and safety personnel in the prevention of occupational hazards.
- (8) The student demonstrates an understanding of hazardous materials safety and handling competencies. The student is expected to:
- (A) describe the Globally Harmonized System of Classification and Labeling of Chemicals (GHS);
 - (B) interpret and analyze Safety Data Sheets (SDS) and container labeling requirements;
 - (C) explain the purpose and importance of proper chemical storage;
 - (D) describe physical properties of hazardous materials;
 - (E) identify and describe ways in which hazardous materials enter the body;
 - (F) explain various strategies to protect from inhalation of harmful airborne substances; and
 - (G) discuss the significance of safety precautions when handling and using compressed gas in the workplace.
- (9) The student evaluates hazard control functions in various occupational settings. The student is expected to:
- (A) identify and describe steps to reduce noise exposure;
 - (B) explain the noise reduction rating (NRR) developed by the EPA;
 - (C) explain the purpose and importance of eye washes and emergency showers in the workplace;
 - (D) identify and describe possible hazards related to heating, ventilation, and air conditioning systems;
 - (E) identify and describe possible hazards related to indoor air quality, including ventilation and adequate air flow;
 - (F) identify steps to reduce hazards related to general machine guarding, power hand tools, and tool safety;
 - (G) identify and describe motor vehicle safety and security management techniques such as accident prevention strategies, driver training programs, and vehicle inspection protocols;
 - (H) describe steps to reduce hazards related to powered industrial trucks; and
 - (I) identify and describe possible hazards related to ladders and scaffolds.
- (10) The student investigates fire safety and emergency management in occupational safety. The student is expected to:
- (A) identify and describe proper storage techniques for flammable or combustible materials;
 - (B) identify and describe the importance of fire systems inspections, fire confinement, emergency exits, and emergency lighting;
 - (C) describe the importance and maintenance of portable fire extinguishers;
 - (D) differentiate between fire and combustion; and
 - (E) describe classes of fire related to the extinguishing agents.
- (11) The student examines special hazard fire suppression systems. The student is expected to:
- (A) describe characteristics of fixed wet and dry chemical extinguishing systems;
 - (B) describe physical characteristics of carbon dioxide, halogenated hydrocarbons, halocarbons, and inert gases;

- (C) describe design goals for smoke and fire controls and the corresponding management systems; and
 - (D) explain fire extinguisher operation, inspection, testing, and maintenance procedures and proper use.
- (12) The student examines how accidents impact the workplace. The student is expected to:
- (A) evaluate the financial impact on an organization resulting from an accident;
 - (B) explain workplace accident legal compliance, including OSHA accident reporting, OSHA recordkeeping regulations, and worker's compensation claims; and
 - (C) identify and compare accident categories, including near miss, minor injury, major injury, and catastrophic injury.
- (13) The student demonstrates an understanding of accident prevention and the principles of an effective corrective action plan. The student is expected to:
- (A) describe the purpose of corrective actions;
 - (B) develop an effective corrective action plan for an organization; and
 - (C) write a report documenting an accident.
- (14) The student analyzes accidents and accident reports. The student is expected to:
- (A) explain common unsafe actions such as purposefully working at unsafe speeds or knowingly using unsafe tools;
 - (B) describe human, job, and workplace factors that lead to accidents;
 - (C) explain the importance of timely reporting workplace accidents;
 - (D) complete a standard accident report form;
 - (E) write an effective accident report, including a summary of an incident, findings, and recommendations, using factual communication;
 - (F) identify and report causal factors of an accident; and
 - (G) analyze accident reports of small damage and near misses and describe future prevention of major accidents.
- (15) The student understands the process of accident investigations. The student is expected to:
- (A) identify and discuss the purpose and benefits of accident investigations in the workplace;
 - (B) identify and discuss the role that workers, supervisors, managers, and safety personnel have in the accident investigation process; and
 - (C) identify and describe the phases of an accident investigation.