

Texas Essential Knowledge and Skills for Career and Technical Education

Subchapter: Law, Public Safety, Corrections and Security

OSET I – Workplace Safety & Health Management (Two Credits).

- (a) General Requirements: This course is recommended for students in Grades 9-12.
Recommended prerequisite: None.
- (b) Introduction: The Occupational Safety and Health Administration (OSHA) is charged with the tasks of making sure that businesses provide a safe workplace that is free from recognized hazards, promoting health and safety in the workplace, and bringing about a reduction in the occurrence of on the job injuries, illnesses, and fatalities. When employees stay safe and healthy, companies can reduce workers' compensation insurance costs and medical expenses, decreased payout for return-to-work programs, reduce faulty products, and lower costs for job accommodations for injured workers.

End-of-Course Outcomes:

- Develop and implement safety program;
 - Describe cost benefit analysis
 - Summarize the basic components of human behavior modification;
 - Apply the components of the safety audit process including record keeping requirements.
 - Assess the effect of physical environment factors on comfort and performance
 - Evaluate situations and recommend decisions in contexts relating to the workplace
 - Recognize and value the diversity of human experience with regards to work
 - Demonstrate commitment to improving psychological well-being, the physical working conditions and job performance
- (c) Knowledge and skills.
- (1) The student will be able to apply critical thinking and event analysis to make decisions with and outside the classroom. The student will know the moral and legal responsibilities and how to protect themselves/others in a hazardous work environment. They are expected to:
- a. Communicate and research safety information to others
 - b. Directly estimate cost of work-related hazard on employees
 - c. Indirectly estimate cost of work-related hazard on employers
- (2) The student will be able to identify substances that lead to injury/illness. They are expected to:
- a. Know possible short or long term effect of exposure and cost

- b. Differentiate / associate work hazard from pre-existing health condition(s)

(3) The student will be able to adopt safety measures. They are expected to:

- a. Control workplace hazard at the source whenever possible
- b. Improve workplace health and safety program /safety awareness
- c. Recommend safety accessories

(4) The student will be able to understand the role of health and safety representative. They are expected to:

- a. Have employer's support to eliminate work hazard and improve work safety
- b. Conduct survey, question and search for answers and meaning and develop ideas that leads to action.
- c. Report hazard to appropriate parties (union, supervisor, advisory committee, etc.)
- d. Examining relationship between self, community and environment and consequences of actions
- e. Improve workplace safety and health program/awareness

(5) The student defines the breadth of the science of ergonomics. The student is expected to:

- a. Define ergonomics with a broad perspective.
- b. Trace the history of the science of ergonomics.
- c. List three organizational domains of ergonomics.
- d. Apply the science of ergonomics to no fewer than four interdisciplinary fields.

(6) The student explains the fundamentals of using professional and regulatory resources. The student is expected to:

- a. State pivotal regulatory actions responsible for enforcing public safety
- b. List three means to ensuring design safety
- c. List four types of product liability classifications from a legal perspective
- d. Design a warning label for a physically intensive computer-based job
- e. Recall OSHA perspective on ergonomic workplace design
- f. Evaluate ten professional and regulatory resources

(7) The student identifies ergonomic problems in a variety of workplace settings. The student is expected to:

- a. Complete no fewer than ten posture evaluations of a workplace settings

- b. Apply OSHA's VDT Checklist to a workplace setting
- c. Evaluate elements of a user-friendly computer station

(8) The student describes purpose for each body system. The student is expected to:

- a. List six primary body systems analyzed in the study of ergonomics
- b. Illustrate the mechanism of muscular contraction
- c. Explain energy transformation for muscular activity
- d. Explain the functional elements of the musculoskeletal system
 - i. Describe muscular fatigue, strength, innervation, reflexive movements

(9) The student identifies types of work-related musculoskeletal disorders. The student is expected to:

- a. List the two classifications of occupational work
- b. List conditions that can occur due to fatigue in dynamic work
- c. Describe fatigue conditions associated with static work in biological terms

(10) The student applies principles of prevention to work-related Musculoskeletal disorders. The student is expected to:

- a. List no fewer than three principles of arrangement that ensure a functional workplace.
 - i. Investigate environmental factors (i.e. identify and evaluate all tools and equipment, assess working conditions, identify safety considerations)

(11) The student assesses ergonomic guidelines for work-related musculoskeletal disorders. The student is expected to:

- a. List no fewer than eight work-related musculoskeletal disorders (WMSDs) and explain the three stages of WMSDs
- b. Classify occupational factors and risk symptoms for no fewer than eight WMSDs

(12) The student designs safety training programs to reduce risks. The student is expected to:

- a. Describe personal risk factors that are important in providing training recommendations and administrative controls for WMSDs

- i. Develop multiple design solutions with attention to such as sophistication, cost and time to implementation
- ii. Produce no fewer than three levels of workforce safety design solutions to include: immediate, interim and long-term solution

(13) The student explores successful safety management. The student is expected to:

- a. examine management commitment and involvement;
- b. identify the roles of management, safety and health professionals, first-line supervisor and worker; and
- c. demonstrate an understanding of management and supervisory accountability.

(14) The student develops an understanding of elements of a written safety and health program. The student is expected to:

- a. explain the reasons for a comprehensive safety program;
- b. read and comprehend the requirements and elements of OSHA guidelines for a safety and health program; and
- c. demonstrate an understanding of emergency and medical planning.

(15) The student demonstrates appropriate personal and communication skills. The student is expected to:

- a. define motivation and the principles of motivation;
- b. demonstrate an understanding of self-motivation;
- c. demonstrate application of leadership and leadership characteristics;
- d. employ writing and preparation skills using technical information; and
- e. demonstrate speaking skills.

(16) The student discusses methods to reduce sources of workplace hazards in order to promote a safe working environment. The student is expected to:

- a. describe hazard identification steps;
- b. perform a root cause analysis and the methods associated with analysis
- c. identify accident types; and
- d. elements of workplace health program.

(17) The student demonstrates knowledge of workplace security and violence.

The student is expected to

- a. describe prevention strategies;
- b. outline hazard prevention and control;
- c. discuss training and education components of a safety program;
- d. identify and discuss types of workplace violence events and prevention strategies;