Career and Technical Education TEKS Review Draft Recommendations

Texas Essential Knowledge and Skills (TEKS) for Career and Technical Education Draft Recommendations
Manufacturing Career Cluster
Programs of Study: Industrial Maintenance; Manufacturing Technology
Texas State Technical College

The document reflects the draft recommendations to the career and technical education (CTE) Texas Essential Knowledge and Skills (TEKS) that have been recommended by subject matter experts facilitated by Texas State Technical College for: **Industrial Maintenance and Manufacturing Technology programs of study.**

Proposed additions and new courses are shown in green font with underline (additions). Proposed deletions are shown in red font with strikethroughs (~~deletions~~). Text proposed to be moved from its current student expectation is shown in purple italicized font with strikethrough (~~*moved text*~~) and is shown in the proposed new location in purple italicized font with underlines (*new text location*). Numbering for the knowledge and skills statements in the document will be finalized when the proposal is prepared to file with the *Texas Register*.

Comments in the right-hand column provide explanations for the proposed changes. The following notations may be used as part of the explanations.

Abbreviation	Description
KS	refers to knowledge and skills statement
SE	refers to student expectation

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§130.XX. Basic Fluid Power (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 9-12. Recommended prerequisites: Algebra I and Geometry. 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 Basic Fluid Power, students gain knowledge and skills in hydraulic and pneumatic systems as applied to industrial manufacturing. Instruction includes terminology and fluid power theory, fluid power schematic reading, component identification, and component functions. Students also gain basic knowledge of fluid power system design with basic system components, installing basic fluid power system components, and building maintenance schedules for preventative and reactive maintenance.	
(4)	Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.	

(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	research and describe the trends of manufacturing careers within the industry;	
(B)	identify safety, health, environmental and ergonomic issues in manufacturing;	
(C)	explain the importance of dressing appropriately, speaking politely, and conducting oneself in a manner appropriate for the profession and work site;	
(D)	describe characteristics of a positive work ethic, including punctuality, dependability, reliability, and responsibility for reporting for duty and performing assigned tasks;	
(E)	identify time-management skills such as prioritizing tasks, following schedules, and tending to goal-relevant activities and describe how these practices optimize efficiency and results in a team; and	
(F)	identify various methods for addressing conflict resolution within a team environment.	
(2)	The student identifies terminology and fundamental concepts of fluid power in manufacturing. The student is expected to:	
(A)	explain the function of Pascal's Law in hydraulic systems;	Pascal's Law is the foundation for how fluid power systems work
(B)	identify and define the function of actuators in fluid power systems;	
(C)	identify and define the function of valves in fluid power systems;	
(D)	define the relationship between pressure, force, and cylinder volume in fluid power systems;	
(E)	explain the application of various gas laws in pneumatic systems, including Gay Lussac's Law, Charles' Law, and Boyle's Law;	These three gas laws are an important part of pneumatic fluid power
(F)	explain how the Law of Conservation of Energy applies to fluid power systems;	Air and hydraulic fluid are the conduits for energy transfer in fluid power systems
(G)	explain how pressure is generated in a fluid power circuit;	
(H)	explain how different seal types and operating temperatures can impact fluid compatibility;	

(I)	explain the difference between flash point, fire point, and auto ignition regarding hydraulic fluid;	
(J)	explain displacement regarding hydraulic pumps; and	
(K)	identify hazards from unrelieved pressure in the lines of a fluid power system.	Safety is a vital part of activities and equipment in the manufacturing cluster
(3)	The student reads and interprets technical drawings in a fluid power system. The student is expected to:	
(A)	identify common fluid power symbols such as cylinders, motors, pumps, reservoir, and directional control valves;	
(B)	differentiate between schematic and pictorial diagrams;	
(C)	match fluid power schematic symbols to actual physical components in a system;	
(D)	construct and operate a basic fluid power circuit given a schematic utilizing a directional control valve and a double acting cylinder; and	
(E)	draw a fluid power schematic from a given fluid power application.	
(4)	The student demonstrates understanding of the characteristics and applications of fluid power systems. The student is expected to:	
(A)	read and interpret pressure gauge readings to determine potential internal and external leakage issues;	
(B)	read and interpret flow meters to detect proper and improper system flow;	
(C)	read and interpret temperature gauges to detect heat issues within the system;	
(D)	explain the operational difference between hydraulic and pneumatic systems;	
(E)	explain the need for dryers with pneumatic systems; and	
(F)	explain the need for lubrication in a pneumatic system.	
(5)	The student applies mathematical calculations to various operations of a fluid power. The student is expected to:	
(A)	describe and analyze pressure, force and volume in the context of fluid power systems;	
(B)	calculate output force and rod speed given cylinder size, flow rate, and pressure applied;	
(C)	describe and calculate how a change in pressure or volume results in change in force;	

(D)	describe and calculate how change in volume results in change of rod speed and force applied; and	
(E)	calculate the force output of an extending cylinder using Pascal's Law.	
(6)	The student understands the function of various components in fluid power systems. The student is expected to:	
(A)	differentiate between a pneumatic compressor and a hydraulic pump;	
(B)	describe the function of a hydraulic reservoir such as fluid storage, fluid cooling, and contaminant separation;	
(C)	describe the function of various pumps such as piston, gear, and vane pumps;	
(D)	differentiate between a fixed and variable displacement pump;	
(E)	explain the purpose of an actuator;	
(F)	explain the purpose of various gauges and meters;	
(G)	explain the purpose of various pressure controlling devices in hydraulic systems such as pressure relief valves, pressure reducing valves, sequence valves, and counterbalance valves;	
(H)	explain the purpose of various pressure controlling devices in pneumatic systems such as regulators and pressure relief valves;	
(I)	explain the purpose of various flow controlling devices in fluid power systems such as check valves, directional control valves, needle valves, and flow controls;	
(J)	explain the purpose of various motors in fluid power systems such as unidirectional and bi-directional motors;	
(K)	describe the function of a hydraulic and pneumatic actuators such as motors, cylinders, and rotary actuators;	
(L)	describe the function of various hydraulic and pneumatic cylinders such as single and double acting cylinders, single and double rodded cylinders, and rodless cylinders;	
(M)	describe the function of a fluid power double acting cylinder;	
(N)	explain the function of flow control valves to control actuator speed in a fluid power circuit;	
(O)	identify and explain the function of a check valve; and	

(P)	explain the function of an accumulator.	
(7)	The student designs basic fluid power circuits utilizing various components in a fluid power system. The student is expected to:	
(A)	design a fluid power circuit with a unidirectional motor;	
(B)	design a fluid power circuit with bi-directional motor;	
(C)	design a fluid power circuit with multiple cylinders;	
(D)	design a fluid power circuit with a flow control valve to control actuator speed;	
(E)	design a fluid power circuit utilizing a check valve;	
(F)	design a basic fluid power circuit using various configurations of Directional Control Valves to change flow direction;	
(G)	design fluid power circuits using various operators for Directional Control Valve such as lever operator, solenoid operator, pilot operator, and push button operator;	
(H)	design a hydraulic sequence valve to operate multiple actuators in sequence; and	
(I)	design a hydraulic pressure reducing valve to lower pressure in a branch circuit.	
(8)	The student installs various components in a fluid power system. The student is expected to:	
(A)	connect fluid power circuits using various connecting methods such as threaded, push to fit, and quick disconnect fittings;	
(B)	identify and demonstrate proper safety procedures required for system installation such as lock out tag out to control hazardous energy;	
(C)	install a fluid power circuit with a unidirectional motor;	
(D)	install a fluid power circuit with bi-directional motor;	
(E)	install a fluid power circuit with multiple cylinders;	
(F)	install a fluid power circuit with a flow control valve to control actuator speed;	
(G)	install a fluid power circuit utilizing a check valve;	

(H)	install a basic fluid power circuit using various configurations of Directional Control Valves to change flow direction;	
(I)	install fluid power circuits using various operators for Directional Control Valve such as lever operator, solenoid operator, pilot operator, and push button operator;	
(J)	install and adjust pneumatic system regulator to match a defined system pressure setting;	
(K)	install and adjust hydraulic power unit relief valve to match a defined system pressure setting;	
(L)	install a hydraulic sequence valve to operate multiple actuators in sequence; and	
(M)	install a hydraulic pressure reducing valve to lower pressure in a branch circuit.	
(9)	The student utilizes industry standard practices to maintain functional capacity in fluid power systems. The student is expected to:	
(A)	analyze service data to implement preventive maintenance schedules;	
(B)	document and analyze repair data to implement predictive maintenance schedules;	
(C)	inspect components in a fluid power system to identify signs of malfunction such as discoloration, vibration, and loud sounds;	
(D)	inspect hydraulic fluid and identify contaminants and signs of viscosity breakdown;	
(E)	identify and demonstrate procedures to change filters in a fluid power system; and	
(F)	identify and demonstrate procedures to drain and replace hydraulic fluid as required.	
(10)	The student understands the function of a basic vacuum system. The student is expected to:	
(A)	identify and explain the function of a venturi vacuum application;	
(B)	connect and read a vacuum gauge;	
(C)	connect and read a manometer;	
(D)	connect and operate a vacuum generator;	
(E)	identify and explain the function of a vacuum generator; and	
(F)	connect a venturi to a pneumatic system.	

§127.XX. Industrial Maintenance (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 9-12. Recommended prerequisite: Algebra I or Geometry. 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, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.	
(3)	This course is designed to introduce students to knowledge and skills used in the proper application of industrial maintenance. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students gain an understanding of what employers require to gain and maintain employment in manufacturing careers.	
(4)	Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.	

(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	explain the importance of dressing appropriately, speaking politely, and conducting oneself in a manner appropriate for the profession and work site;	
(B)	describe and demonstrate characteristics of a positive work ethic, including punctuality, dependability, reliability, and responsibility for reporting for duty and performing assigned tasks;	
(C)	identify time-management skills such as prioritizing tasks, following schedules, and tending to goal-relevant activities and describe how these practices optimize efficiency and results in a team; and	
(D)	identify various methods for addressing conflict resolution within a team environment.	
(2)	The student applies mechanical skills to maintain and repair industrial equipment using the appropriate tools and equipment while adhering to safety policies. The student is expected to:	
(A)	identify equipment malfunctions using inspection skills, including visual, audible, and other sensory skills to detect malfunctions such as lack of lubrication, misalignment, excess wear, excess vibration and over temperature;	
(B)	differentiate between mechanical, hydraulic, pneumatic, and electrical systems;	
(C)	identify safety concerns with equipment maintenance;	
(D)	create a safe plan of action to address safety concerns;	
(E)	explain safety practices for various types of manufacturing tools used for cutting, drilling, cleaning, and abrasive processes;	
(F)	identify tools and describe procedures used in cutting, drilling, cleaning, and abrasive processes;	

(G)	identify and demonstrate proper use of precision measuring tools such as micrometers, dial calipers, and scales to verify proper repair and alignment; and	
(H)	identify and explain the applications for various types of fasteners.	
(3)	The student applies communication and documentation skills to manufacturing activities. The student is expected to:	
(A)	present written and oral technical communication in a clear, concise, and effective manner for a variety of purposes and audiences;	
(B)	identify documentation methods for maintenance tasks and plans required for completion; and	
(C)	develop and execute a plan for maintenance task completion.	
(4)	The student maintains and repairs industrial equipment using the appropriate tools, equipment, machines, materials, and technical processes. The student is expected to:	
(A)	describe the processes needed to complete a project, including initiate, plan, execute, monitor and control, and close; and	
(B)	use the appropriate tools to complete maintenance repair processes, including drilling, tapping, layout, and tightening fasteners to specifications.	
(5)	The student understands the foundations of occupational safety and health. The student is expected to:	
(A)	explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;	
(B)	explain and discuss the importance of Occupational Safety and Health Administration (OSHA) standards and OSHA requirements for organizations, how OSHA inspections are conducted, and the role of national and state regulatory entities;	
(C)	explain the role industrial hygiene plays in occupational safety and explain various types of industrial hygiene hazards, including physical, chemical, biological, and ergonomic;	
(D)	identify and explain the appropriate use of types of personal protective equipment used in industry;	
(E)	discuss the importance of safe walking and working surfaces in the workplace and best practices for preventing or reducing slips, trips, and falls in the workplace;	

(F)	describe types of electrical hazards in the workplace and the risks associated with these hazards and describe control methods to prevent electrical hazards in the workplace;	
(G)	analyze the hazards of handling, storing, using, and transporting hazardous materials and identify and discuss ways to reduce exposure to hazardous materials in the workplace;	
(H)	identify workplace health and safety resources, including emergency plans and Safety Data Sheets, and discuss how these resources are used to make decisions in the workplace;	
(I)	describe the elements of a safety and health program, including management leadership, worker participation, and education and training;	
(J)	explain the purpose and importance of written emergency action plans and fire protection plans and describe key components of each such as evacuation plans and emergency exit routes, list of fire hazards, and identification of emergency personnel;	
(K)	explain the components of a hazard communication program; and	
(L)	explain and give examples of safety and health training requirements specified by standard setting organizations.	
(6)	The student examines safe work habits in an industrial maintenance setting. The student is expected to:	
(A)	identify and describe proper storage and disposal procedures for hazardous materials using Material Safety Data Sheets (MSDS);	
(B)	identify and demonstrate use of proper PPE (Personal Protective Equipment) and safety requirements in the manufacturing industry;	
(C)	describe and demonstrate proper lock out tag out procedures;	
(D)	describe and demonstrate safe operation of power tools, including drills, saws, grinders, and sanders; and	
(E)	identify and select appropriate PPE needed to operate various power tools, including drills, saws, grinders, and sanders.	
(7)	The student examines the importance of preventative maintenance in an industrial maintenance environment. The student is expected to:	

(A)	perform preventative maintenance (PM) on selected equipment, including lubrication, cleaning of parts and tightening of fasteners;	
(B)	determine a PM schedule based on data collected from machine breakdowns; and	
(C)	differentiate between reactive maintenance, preventative maintenance, and predictive maintenance.	
(8)	The student selects and reports on career opportunities, requirements, and expectations in manufacturing and technology. The student is expected to:	
(A)	identify special skill career pathways in manufacturing;	
(B)	identify and participate in career or job fairs to gain industry contacts; and	
(C)	describe the roles and functions of engineers, technologists, and technicians in an industrial maintenance setting.	

§127.XX. Mechanical Maintenance (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 9-12. Recommended prerequisite: Algebra I or Geometry. 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, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.	
(3)	This course is designed to introduce students to knowledge and skills used in the proper application of mechanical maintenance. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students gain an understanding of what employers require to gain and maintain employment in manufacturing careers.	
(4)	Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.	

(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	explain the importance of dressing appropriately, speaking politely, and conducting oneself in a manner appropriate for the profession and work site;	
(B)	describe and demonstrate characteristics of a positive work ethic, including punctuality, dependability, reliability, and responsibility, for reporting for duty and performing assigned tasks;	
(C)	identify time-management skills such as prioritizing tasks, following schedules, and tending to goal-relevant activities and describe how these practices optimize efficiency and results in a team; and	
(D)	identify various methods for addressing conflict resolution within a team environment.	
(2)	The student understands the foundations of occupational safety and health. The student is expected to:	
(A)	explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;	
(B)	explain and discuss the importance of Occupational Safety and Health Administration (OSHA) standards and OSHA requirements for organizations, how OSHA inspections are conducted, and the role of national and state regulatory entities;	
(C)	explain the role industrial hygiene plays in occupational safety and explain various types of industrial hygiene hazards, including physical, chemical, biological, and ergonomic;	
(D)	identify and explain the appropriate use of types of personal protective equipment used in industry;	
(E)	discuss the importance of safe walking and working surfaces in the workplace and best practices for preventing or reducing slips, trips, and falls in the workplace;	
(F)	describe types of electrical hazards in the workplace and the risks associated with these hazards and describe control methods to prevent electrical hazards in the workplace;	
(G)	analyze the hazards of handling, storing, using, and transporting hazardous materials and identify and discuss ways to reduce exposure to hazardous materials in the workplace;	
(H)	identify workplace health and safety resources, including emergency plans and Safety Data Sheets, and discuss how these resources are used to make decisions in the workplace;	

(I)	describe the elements of a safety and health program, including management leadership, worker participation, and education and training;	
(J)	explain the purpose and importance of written emergency action plans and fire protection plans and describe key components of each such as evacuation plans and emergency exit routes, list of fire hazards, and identification of emergency personnel;	
(K)	explain the components of a hazard communication program; and	
(L)	explain and give examples of safety and health training requirements specified by standard setting organizations.	
(3)	The student examines safe work habits in a mechanical maintenance setting. The student is expected to:	
(A)	identify and describe proper storage and disposal procedures for hazardous materials using Material Safety Data Sheets (MSDS);	
(B)	identify and demonstrate use of proper PPE (Personal Protective Equipment) and safety requirements in the manufacturing industry;	
(C)	describe and demonstrate proper lock out tag out procedures;	
(D)	describe and demonstrate safe operation of hand tools; and	
(E)	identify and select appropriate PPE needed to operate various hand tools.	
(4)	The student examines the operation of various pumps. The student is expected to:	
(A)	identify the components of and explain the operation of a centrifugal pump;	
(B)	identify the components of and explain the operation of a positive displacement piston pump;	
(C)	identify the components of and explain the operation of a positive displacement diaphragm pump;	
(D)	explain the function of a pressure tank with a diaphragm pump;	
(E)	explain and demonstrate how to prime a pump; and	
(F)	identify the components of and explain the function of a check valve in regarding maintaining pump priming.	
(5)	The student examines the operation of various compressors. The student is expected to:	
(A)	identify and explain the operation of a piston compressor;	
(B)	differentiate between a single-stage and two-stage piston compressor;	

(C)	identify and explain the function of intercoolers in two-stage piston compressors;	
(D)	identify and explain the function of after coolers in two-stage piston compressors;	
(E)	identify and explain the operation of a rotary screw compressor; and	
(F)	explain the importance of dryers with industrial compressors.	
(6)	The student analyzes test or performance data to assess equipment operation. The student is expected to:	
(A)	inspect parts and identify typical defects such as breakage or excessive wear;	
(B)	observe equipment in operation to check for potential problems such as leaks, misalignment, and overheating; and	
(C)	test mechanical equipment to ensure proper functioning.	
(7)	The student uses prints, specifications, or diagrams to perform installation, disassembly and assembly, development or operation activities. The student is expected to:	
(A)	identify components of pumps, compressors, and mechanical drives in mechanical drawings and diagrams;	
(B)	apply torque to fasteners as prescribed in equipment manuals during reassembly;	
(C)	identify input and output capability of equipment using manufacturers specifications;	
(D)	locate part numbers using a diagram; and	
(E)	use a logbook or computer to record information about parts, materials or repair procedures.	
(8)	The student uses industrial maintenance skills to safely disassemble and assemble various types of pumps for the purpose of maintenance and repair. The student is expected to:	
(A)	identify safety hazards associated with assembly and disassembly of pumps for applying lock out tag out procedures;	
(B)	identify correct tools and describe correct procedures used in the disassembly and assembly of a centrifugal pump;	
(C)	identify tools and describe procedures used in the disassembly and assembly of a diaphragm pump;	
(D)	inspect pumps to locate damage, defects, and wear;	
(E)	operate pumps to ensure correct function such as rotation direction, prime, and flow;	

(F)	explain and demonstrate proper lubrication procedures for pumps; and	
(G)	use a logbook or computer to record information about parts, materials or repair procedures.	
(9)	The student use industrial maintenance skills to safely disassemble and assemble various types of compressors for the purpose of maintenance and repair. The student is expected to:	
(A)	identify safety hazards associated with assembly and disassembly of compressors for applying lock out tag out procedures;	
(B)	identify correct tools and describe correct procedures used in the disassembly and assembly of a reciprocating compressor;	
(C)	identify correct tools and describe correct procedures used in the disassembly and assembly of a rotary screw compressor;	
(D)	inspect compressors to locate damage, defects, and wear;	
(E)	operate newly reassembled compressor to ensure correct function such as direction of rotation;	
(F)	explain and demonstrate proper lubrication procedures for compressors; and	
(G)	use a logbook or computer to record information about parts, materials or repair procedures.	
(10)	The student examines and recognizes internal components of various pumps and compressors. The student is expected to:	
(A)	identify and inspect internal seals for wear and damage;	
(B)	identify and inspect vanes in a centrifugal pump for wear and damage;	
(C)	inspect diaphragm for damage, defects, and wear; and	
(D)	identify and inspect bearings on pumps and compressors for damage and wear.	
(11)	The student understands the purpose of specific internal components of various pumps and compressors. The student is expected to:	
(A)	explain the purpose of internal seals on compressors and pumps;	
(B)	explain the function and operation of bearings on compressors and pumps;	
(C)	identify and explain the function of check valves in a diaphragm pump; and	

(D)	identify and explain lubrication needs for pumps and compressors.	
(12)	The student understands the purpose of specific internal components of gear boxes. The student is expected to:	
(A)	identify and explain the function of spur gears;	
(B)	identify and explain the function of helical gears;	
(C)	identify and explain the function of miter and bevel gears;	
(D)	differentiate between miter and bevel gears; and	
(E)	identify and explain the function of "slingers" for lubrication distribution.	
(13)	The student applies industrial maintenance skills to safely disassemble and assemble various types of mechanical drives. The student is expected to:	
(A)	identify tools and describe procedures used in the disassembly and assembly of mechanical drives; and	
(B)	identify safety hazards associated with assembly and disassembly of mechanical drives.	
(14)	The student understands the use of drive belts and chains for speed control. The student is expected to:	
(A)	identify belt style, size, and application on a mechanical drive system;	
(B)	identify proper sheave for belt application on a mechanical drive system;	
(C)	differentiate between a drive and driven sheave;	
(D)	calculate sheave ratios for speed adjustments on a mechanical drive system;	
(E)	inspect sheave and belt for wear and possible replacement on a mechanical drive system;	
(F)	identify drive chain size to match sprocket used on a mechanical drive system;	
(G)	calculate sprocket ratios for speed adjustments on a mechanical drive system;	
(H)	adjust chain length by breaking and reassembling chain on a mechanical drive system; and	
(I)	inspect sprocket and chain for wear and possible replacement on a mechanical drive system.	
(15)	The student selects and reports on career opportunities, requirements, and expectations in manufacturing and technology. The student is expected to:	
(A)	identify special skill career pathways in manufacturing;	

(B)	identify and participate in career or job fairs to gain industry contacts; and	
(C)	describe the roles and functions of engineers, technologists, and technicians in an industrial maintenance setting.	

§127.XX. Blueprint Reading for Manufacturing Applications (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 10-12. Recommended Prerequisites: Algebra I and Geometry. Students shall be awarded one credit for successful completion of this course.	
(c)	Introduction.	
(1)	Career and technical education instruction provide 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 a production planning and control, maintenance, and manufacturing/process engineering.	
(3)	In Blueprint Reading for Manufacturing, students gain knowledge and skills in an introduction to reading and interpreting working drawings for basic machining processes, mechanical maintenance, basic electrical, basic fluid power, and basic facility prints. Students use sketching techniques to create pictorial and multiple-view drawings.	

(4)	Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.	
(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	research and describe the trends of careers within the manufacturing industry;	
(B)	identify safety, health, environmental and ergonomic issues in manufacturing;	
(C)	identify and comply with appropriate work behaviors such as dressing appropriately, speaking politely and showing respect for coworkers;	
(D)	demonstrate safety in the workplace as specified by appropriate governmental regulations such as the Occupational Safety and Health Administration (OSHA);	
(E)	demonstrate characteristics of a positive work ethic such as punctuality, dependability, reliability, and responsibility for reporting for duty and performing assigned tasks;	
(F)	identify and describe how time management skill such as prioritizing tasks, following schedules, and tending to goal-relevant activities improve a manufacturing team's efficiency; and	
(G)	identify various methods for addressing conflict resolution within a manufacturing team environment.	
(2)	The student demonstrates an understanding of a blueprint and technical drafting terminology. The student is expected to:	
(A)	explain the function of various parts of a title block such as scale, materials, and print title;	
(B)	read and interpret explain the function of multi-view drawings;	
(C)	describe fractional, decimal, and metric dimensions;	

(D)	read and interpret explain the function of section views;	
(E)	describe define projection methods, including isometric, oblique, and orthographic, used in engineering drawings;	
(F)	explain the function of auxiliary views;	
(G)	identify and explain types of dimensions such as linear, radial, angular, ordinate, and arc length;	
(H)	explain the function of pictorial drawings;	
(I)	explain the function of geometric dimensioning and tolerancing;	
(J)	explain tolerances with parts from a print;	
(K)	explain the function of scaling in a print;	
(L)	differentiate between a pictorial and a schematic drawing;	
(M)	explain the function of scaling in a print;	
(N)	explain the function of call outs in a print; and	
(O)	differentiate between electrical schematics, fluid power schematics, and P&ID drawings.	
(3)	The student demonstrates an understanding of tools and symbols to produce technical schematics, facility prints, P&ID prints, and blueprints. The student is expected to:	
(A)	demonstrate the function of a compass for drawing arcs in a print;	
(B)	demonstrate the function of measuring devices such as scales, micrometers, and dial calipers;	
(C)	demonstrate basic function of CAD software;	
(D)	identify the blueprint symbol for a surface profile;	
(E)	identify the blueprint symbol for position;	
(F)	identify the blueprint symbol for run out;	

(G)	identify the blueprint symbol for countersink;	
(H)	identify the blueprint symbol for depth;	
(I)	differentiate between basic and reference dimensions;	
(J)	identify basic electrical print symbols such as switches, lamps, relays, and contacts;	
(K)	identify basic fluid power print symbols such as power unit, actuators, Directional Control Valves, and flow controls;	
(L)	identify various P&ID symbols such as valves, gauges, meters, and regulators; and	
(M)	identify symbols for components such as threads, fasteners, and springs used in the manufacturing process.	
(4)	The student interprets mechanical drawings related to manufacturing processes. The student is expected to:	
(A)	read, interpret, and explain removable fastener drawings;	
(B)	read, interpret, and explain cam drawings;	
(C)	read, interpret, and explain gear drawings;	
(D)	read, interpret, and explain assembly drawings and sub-assembly drawings;	
(E)	read, interpret, and explain detail drawings;	
(F)	read, interpret, and explain bearing drawings;	
(G)	read, interpret, and explain casting drawings;	
(H)	read, interpret, and explain tool drawings; and	
(I)	read, interpret, and explain computer aided drawings.	
(5)	The student interprets facility drawings related to manufacturing buildings. The student is expected to:	
(A)	read, and explain floor plan drawings;	

(B)	read, interpret, and explain elevation drawings;	
(C)	read, interpret, and explain section views and details;	
(D)	locate electrical components such as distribution panels, lights, switches and outlets on facility drawing;	
(E)	identify plumbing components such as drains, water supply, and boilers on facility drawings; and	
(F)	identify HVAC components such as condensers, evaporators, and plenum in facility drawings.	
(6)	The student applies drafting principles to create sketch pictorials and construct multi-view drawings. The student is expected to:	
(A)	sketch projected views, including normal, inclined, and oblique surfaces, in pictorial drawings;	
(B)	document drawing conventions for machine processing;	
(C)	create a sketch utilizing multi-views;	
(D)	sketch a pictorial drawing;	
(E)	apply knowledge of geometric constructions to draw shapes, angles, and lines accurately; and	
(F)	annotate a series of multi-view projections using proper dimensioning standards.	
(7)	The student demonstrates knowledge of tolerances as applied to technical drawings and prints. The student is expected to:	
(A)	illustrate and explain how tolerances are expressed in drawings; and	
(B)	calculate tolerances for mating parts based on maximum material conditions, tolerance stacking, and allowance.	
(8)	The student obtains information from a print or technical drawing. The student is expected to:	
(A)	identify and explain all dimensions, notes, symbols, sections and auxiliary views from a print or technical drawing;	

(B)	identify different types of surface finishes;	
(C)	identify title block and detail information;	
(D)	interpret section views; and	
(E)	perform job setup and layouts based on technical drawings.	
(9)	The student demonstrates knowledge of revision information related to drawings. The student is expected to:	
(A)	describe and apply standard drawing practices for drawing revisions;	
(B)	apply revision information on an industrial print; and	
(C)	revise and publish drawings using proper industry techniques.	

§127.XX. Occupational Safety and Environmental Technology I (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 9-12. 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 I, students build foundational knowledge related to the fields of occupational safety, health and environmental 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, promoting health and safety in the workplace, and	Establish compliance in general, for example, compliance with industry practice, safety organizations versus just compliance with OSHA requirements.

	reducing 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 leadership or extracurricular organizations.	
(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	describe career development and entrepreneurship opportunities in occupational safety and environmental technology;	
(B)	identify and analyze careers advancement opportunities in occupational safety and environmental technology at different levels in an organization;	
(C)	and demonstrate interpersonal skills, problem solving, and critical-thinking skills in occupational safety and environmental technology;	
(D)	identify and explain the requirements to obtain professional credentials such as CSP, CIH and CEP in the fields of occupational safety, health and environmental compliance;	
(E)	identify and explain potential employers' expectations, appropriate work habits, ethical conduct such as dressing appropriately, conducting oneself in a manner appropriate for the profession and worksite, team work, conflict resolution, present written and oral technical communication in a clear, concise and effective manner for a variety of purposes and audiences, time management skills, leadership, legal responsibilities, and good citizenship skills;	
(F)	identify potential career goals such as lead and supervise a team, objectives such as develop a safety management system, participate in making decision process in the work site, and strategies as part of a plan for future career opportunities; and	
(G)	identify opportunities to gain practical experience in industry sectors present in Texas.	

(2)	The student understands the legal responsibilities of work safety in a hazardous work environment. The student is expected to:	
(A)	explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;	
(B)	explain and discuss the importance of OSHA standards and OSHA requirements for organizations, how OSHA inspections are conducted, and the role of national and state regulatory entities;	
(C)	explain the role industrial hygiene plays in occupational safety and explain various types of industrial hygiene hazards, including physical, chemical, biological, and ergonomic;	
(D)	identify and explain the appropriate use of types of personal protective equipment used in industry;	
(E)	discuss the importance of safe walking and working surfaces in the workplace and best practices for preventing or reducing slips, trips, and falls in the workplace;	
(F)	describe types of electrical hazards in the workplace and the risks associated with these hazards and describe control methods to prevent electrical hazards in the workplace;	
(G)	analyze the hazards of handling, storing, using, and transporting hazardous materials and identify and discuss ways to reduce exposure to hazardous materials in the workplace;	
(H)	identify workplace health and safety resources, including emergency plans and Safety Data Sheets, and discuss how these resources are used to make decisions in the workplace;	
(I)	describe the elements of a safety and health program, including management leadership, worker participation, and education and training;	
(J)	explain the purpose and importance of written emergency action plans and fire protection plans and describe key components of each such as evacuation plans and emergency exit routes, list of fire hazards, and identification of emergency personnel;	
(K)	explain the components of a hazard communication program; and	
(L)	explain and give examples of safety and health training requirements specified by standard setting organizations.	
(3)	The student recognizes and mitigates occupational health hazards that lead to injury and illness related to exposure(s) on the job. The student is expected to:	
(A)	explain the role industrial hygiene plays in occupational safety;	

(B)	identify and describe various categories of industrial hygiene hazards;	
(C)	identify various hazardous substances such as those compiled 29 CFR 1910.119 Appendix A and that can be found in workplace settings familiar in the community where the course is taught;	
(D)	explain occupational exposures concepts, including, acute and chronic exposures;	
(E)	determine short- or long-term effects of exposure to hazardous substances; and	This sentence refers to short- and long-term concepts that are associated with substances toxicology.
(F)	identify common health issues caused by workplace exposures such as noise and chemicals.	
(4)	The student describes the process of adopting safety measures. The student is expected to:	
(A)	explain the importance of controlling workplace hazards at the source;	
(B)	explain the Hierarchy of Controls, including elimination, substitution, engineering controls, administrative controls, and PPE;	
(C)	explain the value of training programs that promote awareness of the safety program; and	
(D)	select appropriate personal protective equipment (PPE), including safety glasses, face shields, aprons, and gloves, based on workplace requirements.	
(5)	The student understands the role of a health and safety professional. The student is expected to:	
(A)	conduct surveys and inquiries that lead to plans of action to correct unsafe conditions and acts;	Conducting surveys and inquiries are essential tasks of Safety and Environmental Personnel. At this level they need to develop this skill. Developing surveys is a skill that they acquire with experience and knowledge of the risks in the workplace.
(B)	describe the processes of reporting a hazard or accident to immediate supervisor or union representative;	
(C)	compare the relationship between self, community, environment, and consequences of actions; and	
(D)	develop safety and wellness guidelines to improve workplace safety and health program and awareness.	

(6)	The student investigates the scope of the science of ergonomics in the workplace. The student is expected to:	
(A)	define ergonomics;	
(B)	summarize the history of the science of ergonomics;	
(C)	identify and describe three organizational domains of ergonomics; and	
(D)	explain how the science of ergonomics is used in various business and industries such as manufacturing, construction, medical and energy.	
(7)	The student investigates ergonomic problems in a variety of workplace settings. The student is expected to:	
(A)	evaluate tasks in the workplace that potentially can result in ergonomic problems related to body positions or movements, including, posture, awkward positions, repetitive movement, applying extreme force, reaching, pushing, pulling, bending and weight lifting; and	
(B)	evaluate a workplace setting applying the OSHA's Computer Workstations.	
(8)	The student compares body systems to ergonomics. The student is expected to:	
(A)	describe primary body systems impacted by the practice of ergonomics;	
(B)	describe the mechanism of muscular contraction;	
(C)	explain energy transformation for muscular activity;	
(D)	identify and explain the functions of the musculoskeletal system; and	
(E)	describe muscular fatigue, strength, innervation, and reflexive movements.	
(9)	The student explores workplace conditions that lead to types of work-related musculoskeletal disorders (WMSDs). The student is expected to:	
(A)	differentiate between high-risk and low-risk classifications of occupational work;	
(B)	evaluate conditions that can occur due to fatigue in work;	
(C)	describe in biological terms the fatigue conditions associated with static work;	
(D)	compare work-related musculoskeletal disorders (WMSDs) and describe the three stages of WMSDs; and	

(E)	classify occupational factors and risk symptoms for WMSDs.	
(10)	The student applies principles of housekeeping and order to the prevention of work-related accidents. The student is expected to:	
(A)	outline principles of housekeeping and order, including order and cleanness; and	
(B)	describe how disorder and trash can create unsafe conditions that could be the source of accidents and illness in the workplace.	
(11)	The student explains the fundamentals of using professional and regulatory resources. The student is expected to:	
(A)	identify new ergonomic associated technology;	
(B)	describe the benefits and limitations of new ergonomic technology; and	
(C)	identify and describe utilization of new technology to study tasks at risk of ergonomics hazards in the workplace.	
(12)	The student provides professional ergonomics opinion related to the design of workspaces that reduce work related risks. The student is expected to:	
(A)	describe significant personal risk factors for work-related musculoskeletal disorders (WMSDs) and administrative controls related to the WMSDs prevention;	
(B)	identify and describe multiple detailed ergonomic factors such as workers special needs, workers demography, task needs, cost, and time to implementation;	
(C)	propose workplace safety design solutions, including immediate, interim, and long-term solutions; and	
(D)	review and provide professional opinion about an ergonomic workplace design based on OSHA recommendations.	
(13)	The student explores successful safety management in the workplace. The student is expected to:	
(A)	evaluate management involvement in ensuring a safe working environment for all employees;	
(B)	describe the responsibilities of management, safety and health professionals, first-line supervisor, and worker regarding safety management; and	
(C)	explain management and supervisory accountability regarding workplace safety.	

(14)	The student develops an understanding of elements of a written safety and health program. The student is expected to:	
(A)	explain the necessity of a comprehensive safety program;	
(B)	summarize the requirements and elements of OSHA guidelines for a safety and health program; and	
(C)	conduct and revise emergency and medical plans.	
(15)	The student evaluates methods to reduce sources of workplace hazards to promote a safe working environment. The student is expected to:	
(A)	identify and describe the steps included in hazard identification, including inventory, work site inspection, review of the potential dangers associated with various materials and chemicals found in workplaces;	
(B)	perform a root cause analysis and describe the methods associated with the analysis; and	
(C)	differentiate accident types, including those caused by unsafe act, unsafe conditions, preventable, and life-threatening.	
(16)	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 prevent workplace violence;	
(C)	outline hazard prevention and control program related to security and potential workplace violence situations; and	
(D)	analyze and discuss training and education components of a security and workplace violence program.	

§130.XX. Occupational Safety and Environmental Technology II (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Occupational Safety and Environmental Technology I. 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 II, students build foundational knowledge related to the fields of occupational safety and health and environmental technology. These fields ensure that employers provide a safe workplace and reduce the occurrence of job-related injuries and fatalities. This course presents	

	specific programs related to the prevention and control of accidents such as communications, work environments, accident investigations, personal protective equipment, hazard identification and control, hazardous material management, hazard communication, corrective action plans, and fire and emergency management.	
(4)	Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.	
(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	describe 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 different levels in an organization;	
(C)	identify and demonstrate interpersonal, problem-solving, and critical-thinking skills in the fields of occupational safety and environmental compliance technology;	
(D)	identify and explain the 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) and Certified Environmental Manager (CEM) in the fields of occupational safety and health and environmental compliance;	
(E)	explain the importance of dressing appropriately, speaking politely, and conducting oneself in a manner appropriate for the profession and work site;	
(F)	describe teamwork, group dynamics, and conflict resolution and how they can impact the collective outcome;	
(G)	present written and oral technical communication in a clear, concise, and effective manner for a variety of purposes and audiences;	
(H)	identify time-management skills such as prioritizing tasks, following schedules, and tending to goal-relevant activities how these practices optimize efficiency and results;	

(I)	define work ethic and discuss the characteristics of a positive work ethic, including punctuality, dependability, reliability, and responsibility for reporting for duty and performing assigned tasks;	
(J)	explore career goals, objectives, and strategies as part of a plan for future career opportunities; and	
(K)	identify opportunities to gain practical experience in industry sectors in Texas.	
(2)	The student understands the importance of mastering accident investigation techniques in the occupational safety and health field. The student is expected to:	
(A)	identify and discuss the purpose and benefits of accident investigations in business and industry;	
(B)	identify and discuss the role that workers, supervisors, managers and safety personnel have in the accident investigation process;	
(C)	explain the importance that employers in industry assign to accident investigation skills and techniques; and	Added to include importance of accident investigations.
(D)	identify roles and responsibilities of safety professionals during an accident investigation and in the prevention of accidents.	
(3)	The student uses effective skills, including written, spoken and non-verbal, for workplace accident investigations. The student is expected to:	
(A)	describe the required verbal and written communication skills needed to create accident investigation reports;	
(B)	analyze barriers to effective communication;	
(C)	organize information using a systematic process to reduce communication mistakes;	
(D)	describe the purpose of factual communication in workplace accident investigations;	
(E)	write an effective accident report, including a summary of an incident, findings, and recommendations; and	
(F)	analyze and describe the effect that a lack of communication skills could have on efforts to control hazards.	
(4)	The student demonstrates an understanding of the fundamental principles of hazard control plans to prevent accidents. The student is expected to:	
(A)	explain maintenance requirements for measurement tools used in collecting or evaluating environmental contaminants;	

(B)	identify various workplace hazards and unsafe behaviors;	
(C)	identify and describe methodologies to analyze and control hazards, unsafe operations, and behaviors; and	
(D)	develop safe practices and methods for adhering to safe practices.	
(5)	The student examines effective and safe working environments. The student is expected to:	
(A)	explain the significance of periodic and effective inspections for hazard control;	
(B)	compare various types of hazards, including biological, chemical, ergonomic, physical, and psychosocial;	
(C)	describe common factors among safe workplaces;	
(D)	develop an effective workplace safety inspection checklist; and	
(E)	rank hazards using a classification system that considers severity and probability of occurrence.	
(6)	The student examines change management process and how this process impacts an accident investigation. The student is expected to:	
(A)	analyze a change management failure which led to an incident in a simulated or real work environment;	
(B)	establish what change management process should have occurred;	
(C)	identify and describe the cause of the incident; and	
(D)	describe how the change management process could have prevented the accident.	Added to address accident prevention.
(7)	The student demonstrates an understanding of the importance, correct use, advantages, and disadvantages of personal protective equipment. The student is expected to:	Industrial Maintenance OSH (D)
(A)	summarize the purpose and benefit of protection of the body, including the eyes, face, head, feet, arms, hands, ears, and torso;	
(B)	explain the role an employer plays in maintaining the proper maintenance and sanitation of protective devices;	
(C)	explain the role an employer plays in training employees in the proper use of devices;	

(D)	explain the purpose of requiring annual safety certification by employers;	
(E)	explain the role of a hazard control committee and the contribution of the committee to the success of hazard control in the workplace; and	
(F)	explain how the employer can promote the proper use of personal protective equipment with the workers.	Added to include employer responsibility.
(8)	The student evaluates hazard control function effectiveness. The student is expected to:	
(A)	explain the significance of the hazard control audit for prevention purposes, rather than waiting for an injury analysis;	
(B)	describe the importance of reviewing plans, policies, and records of an organization;	
(C)	explain the rationale behind interviews, questionnaires, and observations of employees in the hazard control audit process;	
(D)	differentiate between effective and ineffective hazard control indicators; and	
(E)	analyze hazard control effectiveness and sustainability and describe ways in which hazard control can be improved.	
(9)	The student demonstrates an understanding of effective management and leadership in relationship to accident prevention efforts in an organization. The student is expected to:	
(A)	describe the main responsibilities of supervisors, managers, safety personnel, and members of an organization in the prevention of workplace hazards;	Industrial Maintenance OSH (A)
(B)	describe the characteristics of an effective leader in accident prevention efforts;	
(C)	define organizational culture and the impact on accident prevention efforts; and	
(D)	compare three management theories and how these management theories impact accident prevention in the workplace.	
(10)	The student evaluates hazard control functions in varying organizational settings. The student is expected to:	
(A)	identify preemptive actions that prevent or reduce slips, trips, and falls;	Industrial Maintenance OSH (E)
(B)	describe the importance of electrical safety and measures to reduce electrical hazards;	Industrial Maintenance OSH (F)

(C)	identify and describe steps to reduce noise exposure;	
(D)	explain the noise reduction rating (NRR) as developed by the Environmental Protection Agency (EPA);	
(E)	identify and describe possible hazards related to heating, ventilation, and air conditioning systems;	
(F)	identify and describe possible hazards related to indoor air quality, including ventilation and adequate air flow;	
(G)	identify steps to reduce hazards related to general machine guarding, power hand tools, and tool safety;	
(H)	describe steps to reduce hazards related to powered industrial trucks; and	
(I)	identify and describe possible hazards related to ladders and scaffolds.	
(11)	The student demonstrates an understanding of hazardous materials management. The student is expected to:	Industrial Maintenance OSH (G)
(A)	identify and describe ways in which hazardous materials can enter the body;	Industrial Maintenance OSH (C)
(B)	describe the dose-response relationship;	
(C)	compare strategies to reduce exposure to hazardous chemicals or materials;	
(D)	explain various strategies to protect from respiration of harmful airborne substances;	
(E)	describe the physical properties of hazardous materials;	
(F)	explain the purpose and importance of eye washes and emergency showers;	
(G)	explain the purpose and importance of proper chemical storage; and	
(H)	discuss the significance of compressed gas safety.	
(12)	The student demonstrates an understanding of the OSHA hazard communication standard and OSHA requirements for organizations. The student is expected to:	
(A)	develop and implement a hazard communication plan;	
(B)	describe the globally harmonized system of classification and labeling of chemicals;	

(C)	explain the impact of the hazard communication standard changes on organizations;	
(D)	interpret and analyze chemical safety data sheets and container labeling requirements; and	Industrial Maintenance OSH (H)
(E)	simulate employee training on OSHA standards.	
(13)	The student analyzes accident causation models which can be applied to various accident investigations. The student is expected to:	
(A)	compare accident investigation theories, including Heinrich's Domino Theory, Haddon Matrix, and Biased Liability Theory;	
(B)	explain the Accident Ratio Study;	
(C)	analyze accident reports of small damage and near misses and describe future prevention of major accidents;	
(D)	explain the loss causation model;	
(E)	describe Heinrich's Pyramid Theory and the relevance in accident investigations;	Added to include common Theory.
(F)	explain common unsafe actions such as purposefully working at unsafe speeds or knowingly using unsafe tools;	
(G)	describe human, job, and workplace factors that lead to accidents;	
(H)	explain how to identify the root causes related to an accident using a causation model;	
(I)	identify effective questioning techniques used when investigating causation;	
(J)	identify and describe factors that contribute to a workplace accident, including human factors, equipment factors, and environmental factors; and	
(K)	analyze and apply accident causation theories to an accident.	
(14)	The student understands the process of accident reporting, accident investigations, and accident analysis. The student is expected to:	
(A)	explain the importance of reporting workplace accidents quickly;	
(B)	analyze patterns or trends in accidents reported;	

(C)	describe hazards, injuries, and accidents to be tracked;	
(D)	explain the importance of maintaining records for data acquisition;	
(E)	develop an accident report form;	
(F)	develop a clear and concise process for completing an accident investigation and submitting an accident report;	
(G)	identify and report causal factors of an accident;	
(H)	analyze and describe effective investigative techniques;	
(I)	identify failures of management in an organization related to accident reporting;	
(J)	describe the importance of accident analysis;	
(K)	compare processes for accident analysis; and	
(L)	evaluate accident report findings to develop proper controls.	
(15)	The student describes how accidents can potentially impact an organization or workplace. The student is expected to:	
(A)	identify and explain the benefits of organizational incentive programs for accident reporting;	
(B)	evaluate the financial impact on an organization related to the occurrence of accidents;	
(C)	identify systemic issues in a mock organization that may lead to accidents;	
(D)	discuss benefits of accident prevention, both financially and personally;	
(E)	explain legal compliance regarding accidents, including OSHA regulations and worker's compensation claims; and	
(F)	identify and compare accident categories, including near miss, minor injury, major injury, and catastrophic injury.	
(16)	The student examines various investigative techniques for accident investigation. The student is expected to:	
(A)	describe the purpose of and outline a formal written accident investigation policy;	

(B)	explain the facets of accident investigation training;	
(C)	describe the purpose of an accident investigation kit;	
(D)	identify and describe the various types of evidence collected at the accident site, including physical evidence and photographic evidence;	
(E)	describe effective means of gathering evidence to properly investigate accidents;	
(F)	describe effective interview methods;	
(G)	describe effective methods of gathering photographic evidence;	
(H)	evaluate the role of the accident log, the accident form, and the accident report in accident investigation;	
(I)	simulate an interview with a witness to an accident; and	
(J)	simulate a list of evidence to be collected and photographs to be taken at a mock accident site.	
(17)	The student uses an analytical approach to investigate accidents. The student is expected to:	
(A)	identify and describe the phases of an accident investigation;	
(B)	explain a structured process to determine the accident sequence; and	
(C)	explain root causes and root cause analysis.	
(18)	The student analyzes workplace procedures in response to accident investigations. The student is expected to:	
(A)	identify and describe various levels of accountability, including worker level and supervisor level accountability;	
(B)	compare hazards versus failures in an organization;	
(C)	explain the benefits of using varying analytical techniques in accident investigations; and	
(D)	compare analytical techniques, including events and causal factors analysis, change analysis, barrier analysis and free analysis.	

(19)	The student demonstrates an understanding of accident prevention and the principle 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;	
(C)	analyze and explain the relationship between facts, analysis, and causation;	
(D)	summarize the facets of hazard control precedence;	
(E)	analyze and describe priorities in designing a hazard control solution;	
(F)	write a report documenting an accident;	
(G)	discuss the importance of corrective actions;	
(H)	delineate a time-table for an organization in following corrective actions;	
(I)	discuss the importance of follow-up activities for an organization; and	
(J)	summarize accident trending and explain the role accident trending has in accident prevention.	
(20)	The student explains the impact of fire safety and emergency management in relation to hazard control. The student is expected to:	Industrial Maintenance OSH (J)
(A)	describe the purpose and importance of a written fire prevention plan in the workplace;	
(B)	identify and describe proper storage techniques for flammable or combustible materials;	
(C)	explain the stages of fire development;	
(D)	identify and describe possible deficiencies in fire safety;	
(E)	describe general fire alarm requirements;	
(F)	identify and describe the importance of fire systems inspections, fire confinement, emergency exits and emergency lighting; and	
(G)	describe the importance of portable fire extinguishers, including the maintenance of portable fire extinguishers.	

(21)	The student examines the relationship among fire behavior, the model codes, and the fire protection systems. The student is expected to:	
(A)	differentiate between fire and combustion and explain the fire triangle and tetrahedron;	
(B)	delineate and describe the types of fire and stages of fire;	
(C)	describe and analyze the forms of heat transfer and methods used to extinguish fires;	
(D)	describe the classes of fire and the relationship the classes of fire have with extinguishing agents;	
(E)	define the terms code and model code as described by the International Code Council (ICC) model code development process;	
(F)	differentiate between the ICC model code development process and the National Fire Protection Association (NFPA) model code development process;	
(G)	describe the advantages to governments and organizations that adopt model codes; and	
(H)	describe the most important code-related conditions that determine the installation requirements for fire protections systems.	
(22)	The student examines various types and requirements of fire alarm system components and functions. The student is expected to:	
(A)	identify and explain fire alarm system components, functions, types, and detection systems; and	
(B)	explain water supplies for fire protection systems, standpipe and hose systems, automatic fire sprinkler systems, and specialized water-based fire protection systems.	
(23)	The student examines special hazard fire suppression systems. The student is expected to:	
(A)	describe the characteristics of fixed wet and dry chemical extinguishing systems, how extinguishing agents control and extinguish fire, and the periodic inspection requirements;	
(B)	describe the physical characteristics of carbon dioxide, halogenated hydrocarbons (halons), halocarbons, and inert gases (clean agents);	
(C)	explain the fire extinguisher classification system and different types of fire extinguishers; and	
(D)	explain fire extinguisher operation, inspection, testing, and maintenance procedures, and proper use.	

(24)	The student recognizes communication skills needed to explain controls associated with management, property security, and emergency response. The student is expected to:	
(A)	describe design goals for smoke and fire control and the corresponding management systems;	
(B)	describe and demonstrate interpersonal communication skills during emergency response training; and	
(C)	describe and demonstrate writing skills needed to document emergency evacuation and response procedures.	

§130.XX. Occupational Safety and Environmental Technology III (One Credit), Adopted 202X.		
	TEKS with edits	Work Group Comments/Rationale
(a)	Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.	
(1)	No later than August 31, 2025, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.	
(2)	If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2025-2026 school year and apply to the 2025-2026 and subsequent school years.	
(3)	If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 31 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.	
(b)	General requirements. This course is recommended for students in Grades 11-12. Prerequisites: Occupational Safety and Environmental Technology I and Occupational Safety and Environmental Technology II. Recommended prerequisite: Chemistry or Integrated Physics and Chemistry. 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)	Students study a variety of national and worldwide health and safety problems, and learn preventative measures to resolve, reduce, and/or eliminate safety and health issues encountered at the workplace. Students encounter detailed information from various federal agencies that are involved in workplace safety and health	

	and demonstrate understanding of that information. Focus is on the Occupational Safety and Health Administration (OSHA) regulations and the Department of Transportation (DOT) regulations with an emphasis on identifying and applying appropriate regulatory safety standards. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems and settings. Students in Occupational Safety and Environmental Technology III participate in work-based learning in the field, including paid or unpaid employment and shadowing opportunities.	
(4)	Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.	
(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 demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(A)	evaluate 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 different organizational levels in the industry;	
(C)	apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in occupational safety and environmental technology;	
(D)	describe certification opportunities and discuss how they benefit the industry;	
(E)	identify employers' expectations, appropriate work habits, ethical conduct, professionalism, communications, leadership, legal responsibilities, and good citizenship skills;	Industrial Maintenance OSH (A)
(F)	apply fundamental business principles, practices, and metrics such as risk vs reward and organizational responsibility to safety, health, and environmental operations;	
(G)	identify potential organizations such as local or state health, safety and environment associations, online groups, local or state courses that can provide opportunities to learn what are the needs in the job market;	
(H)	discuss opportunities that local and national OSHA outreach programs and venues offer that help to continuously sharpen student knowledge and skills in occupational health, safety and environment;	

(I)	identify potential career goals, objectives, and strategies as part of a plan for future career opportunities; and	
(J)	identify opportunities to gain practical experience in industry sectors present in Texas.	
(2)	The student demonstrates appropriate verbal and written communication skills. The student is expected to:	
(A)	employ writing and preparation skills using technical information; and demonstrate speaking skills;	
(B)	discuss and demonstrate principles of public speaking;	
(C)	analyze and explain an intended audience;	
(D)	research, analyze, and organize supporting materials;	
(E)	employ visual aids effectively; and	
(F)	speak effectively in small groups.	
(3)	The student identifies hazardous material as it relates to safety, prevention, and possible action plans. The student is expected to:	Industrial Maintenance OSH (G)
(A)	identify and analyze chemistry fundamentals essential in the study of hazardous materials such as recognizing the common elements by their atomic symbols on the periodic table;	
(B)	differentiate between elements, compounds, and mixtures;	
(C)	explain how ionic and covalent bonding influence chemical properties;	
(D)	summarize the properties of gases, liquids, and solids that are essential in the study of hazardous chemicals;	
(E)	summarize the chemical properties of some common elements, including oxygen, ozone, hydrogen, fluorine, chlorine, phosphorus, sulfur, and carbon regarding industrial purposes and possible chemical hazards;	
(F)	use and apply chemistry fundamental principles when reading safety data sheets and when implementing hazardous material regulations;	
(G)	identify and explain the hazard classes as outlined by the Department of Transportation (DOT) and the basic DOT hazardous material regulations related to the identification, classification, labeling, marking, and transporting of hazardous materials and response to hazardous material incidents; and	

(H)	evaluate and summarize key chemical-specific factors or properties that should be considered when managing or responding to incidents involving corrosive materials (acids and bases), water reactive substances, pyrophoric materials, toxic substances, oxidizers, organic compounds, and polymeric materials.	
(4)	The student summarizes the processes of and precautions for handling hazardous materials. The student is expected to:	
(A)	describe and demonstrate key elements of safe materials handling and storage;	
(B)	analyze and explain the hazards of handling, storing, using, or transporting DOT regulated explosive or radioactive materials;	
(C)	identify and analyze the regulations that govern and precautions that should be taken when handling, storing, using, or transporting DOT regulated explosive or radioactive materials;	
(D)	explain how to choose and use personal protection equipment (PPE) based upon job safety analysis;	Industrial Maintenance OSH (D)
(E)	describe and demonstrate the use of resources, including the DOT Emergency Response Guidebook (ERG) to determine emergency response actions and management techniques to mitigate hazardous material incidents or projects;	
(F)	analyze and demonstrate the use of the Global Harmonized System of Classification and Labeling of Chemical Substances (GHS) and the National Fire Protection Association (NFPA) system of identifying potential hazards; and	
(G)	analyze the importance of health and safety measures for hazardous materials management.	
(5)	The student summarizes a range of hazards and appropriate safety responses to hazardous material scenarios. The student is expected to:	
(A)	identify and explain how or under what circumstances hazardous materials can be flammable, reactive, explosive or corrosive;	
(B)	differentiate multi-hazard exposures;	
(C)	estimate hazard levels using prescribed values;	
(D)	use the key components for risk assessment and hazard assessment to evaluate scenarios where hazardous materials are present;	
(E)	describe how key chemical elements can be used to identify the presence of hazardous materials;	

(F)	summarize the key components for the incident command system as it relates to the management of hazardous materials during an incident;	
(G)	evaluate and compile the components of a site safety plan for operations at a hazardous material (hazmat) incident; and	
(H)	analyze and describe various types of hazardous waste, the impact of hazardous waste to the environment, and the environmental control and public health remedies needed after exposure to hazardous waste.	
(6)	The student studies historical and legislative events that impacted the handling of hazardous materials in the workplace. The student is expected to:	
(A)	recognize the key legislative, regulatory, and voluntary consensus standards that impact hazmat emergency planning and response operations.	
(B)	summarize the challenges and implications of managing hazardous waste materials in America;	
(C)	identify and describe relevant regulatory compliance requirements in the industrial environment;	
(D)	evaluate the efficacy of mandates and programs that are related to hazardous waste;	
(E)	identify and describe contemporary methods of hazardous waste mitigation and remediation, including waste minimization, pollution prevention, reuse, and recycling; and	
(F)	identify and describe federal and state safety and health policies that are in place for hazardous waste workers.	
(7)	The student receives and provides workplace health and safety training. The student is expected to:	Industrial Maintenance OSH (J) & Industrial Maintenance OSH (L)
(A)	obtain and evaluate general information regarding training requirements and updates from local, state, and federal agencies;	
(B)	identify and describe the factors related to the effectiveness of various safety trainings;	
(C)	explain training requirements, renewals, or refreshers that may be applicable depending on job specifications;	
(D)	describe and demonstrate competency in training skills such as preparing a mock training;	
(E)	identify and examine safety and health training theories and their applications;	
(F)	develop strategies for communicating safety and health training in the workplace;	

(G)	analyze and discuss management's role in safety and health training;	
(H)	identify and examine methods for assessing safety and health training performance;	
(I)	evaluate and describe best practices in safety and health training; and	
(J)	evaluate differences in culture and language to provide effective training to workers.	
(8)	The student evaluates workplace safety measures from the perspective of management or ownership. The student is expected to:	
(A)	identify, evaluate and recommend improvements to a workplace safety and health program and awareness in a mock setting;	Industrial Maintenance OSH (J)
(B)	identify and evaluate safety, health, and environmental risks and hazards in the workplace to modify management actions to workplace safety and health issues;	
(C)	identify and discuss important laws, codes, and regulations as they apply to occupational safety and health and the environment and employees in a mock setting;	
(D)	evaluate and demonstrate calculations regarding the measurement and classification of safety, health, and environmental hazards to evaluate and control the hazards in mock settings; and	
(E)	explain the role of employee advisory committees and employee health care in the occupational safety and health discipline and practice.	
(9)	The student explains occupational safety as it relates to transportation systems. The student is expected to:	
(A)	identify and describe the standards included in 49 CFR Part 40 of the Federal Motor Carriers Safety Regulations (FMCSR) related to procedures for transportation industry and drug and alcohol testing programs;	
(B)	identify and explain the exemptions from requirements of Part 40;	
(C)	analyze and interpret forms used to report Management Information System (MIS) data to a DOT agency;	
(D)	describe and explain the activities of transportation employers, safety-sensitive transportation employees (including self-employed individuals, contractors and volunteers as covered by DOT agency regulations), and service agents;	
(E)	identify and explain the requirements of a fleet safety and inspection program;	

(F)	identify and explain ergonomic and material handling hazards drivers encounter based on additional tasks that they perform for example, securing loads and lifting material;	
(G)	describe the special requirements of a small fleet and driving safety program;	
(H)	identify and discuss the benefits of driver training and instructions;	
(I)	describe the responsibilities and duties of driver supervision;	
(J)	describe and demonstrate the organization of motor fleet accident data;	
(K)	explain the development of positive motor fleet transportation publicity;	
(L)	analyze and explain the components of a school bus safety program; and	
(M)	identify motor fleet safety and security management techniques.	
(10)	The student discusses methods to reduce sources of workplace hazards to promote a safe working environment. The student is expected to:	
(A)	describe safe work practices and emergency procedures;	
(B)	analyze and explain rules and laws designed to promote safety and health in the transportation environments;	
(C)	explain the purpose of 49 CFR Part 390 Safety Regulations in relation to the reduction of workplace hazards; and	
(D)	analyze and explain Part 390 Subpart B General Requirements and Information in relation to the reduction of workplace hazards.	
(11)	The student identifies and describes the importance of proactive thinking and management/employee acceptance responsibility for safety and health. The student is expected to:	Consider this as an additional topic and not as part of #10
(A)	describe how employer policies and best practices can exceed OSHA's minimum legal requirements;	
(B)	explain the role of management systems, measurable standards, and metrics as tools for improvement;	
(C)	compare a highly effective safety program with positive and vibrant safety culture with one that is lacking;	
(D)	explain the importance of safety from a leadership perspective;	

(E)	describe and demonstrate how lean tools such as the facilitated Kaizen blitz, six sigma and A3 problem solving, are applicable to safety;	
(F)	identify lean tools to establish a safety culture and to ensure continuous improvement;	
(G)	describe how lean tools can help to investigate and analyze accidents/incidents, and to prevent future occurrences;	
(H)	explain how employees use lean tools to establish a safety culture that consistently meets the state, national, and international health and safety standards as established by those respective governing bodies; and	
(I)	explain the importance of employees and management active participation and their input to occupational health, safety, and environmental programs.	
(12)	The student demonstrates knowledge and understanding of Occupational Safety and Health Administration rules and regulations. The student is expected to:	
(A)	evaluate Occupational Safety and Health Administration (OSHA) rulemaking, enforcement, and adjudication processes;	
(B)	summarize OSHA's approach to applying the General Duty Clause in enforcement actions;	
(C)	assess and describe employee rights related to workplace safety;	
(D)	explain OSHA citation classifications and related penalties;	
(E)	outline employer rights and responsibilities following an OSHA inspection;	
(F)	research and explain affirmative defenses used to contest alleged violations;	
(G)	explain enforcement and the judicial review process of criminal OSHA violations; and	
(H)	explain the best and productive methods to manage an OSHA evaluation or inspection on the worksite.	