Agricultural Mechanics & Metal Technologies (Proc 17)

PRE-TEST/POST-TEST TEKS BLUEPRINT

Pre-Test/Post-Test Development Overview

TEKS Addressed Selection Process

The Texas Essential Knowledge & Skills (TEKS) included in the course pre-test and post-test were selected for their direct relevance to the course content. This selection process was guided by the goal of assessing learners' understanding of specific topics and skills that are integral to the course. As a result, TEKS related to general employability skills or broader topics were often excluded. This focus ensures that the assessments accurately measure students' mastery of the subject matter, allowing educators to gain a clear insight into areas where students excel or may need additional support. By concentrating on content-specific TEKS, the tests provide a more precise evaluation of the students' knowledge and understanding of the core material.

Test Question Development Process

The questions created for the pre-test and post-test were designed using psychometric principles to ensure they are of high quality and fairness. This approach helps to accurately assess student understanding. These principles guide the development of questions to be reliable, valid, and free from bias, ensuring that they effectively measure the knowledge and skills the students are expected to acquire in the course.

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Knowledge & Skills Statement	Student Expectation	iCEV Lesson Title
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	(D) demonstrate knowledge of personal and occupational health, safety, and first aid practices in the industry	First Aid Basics Personal & Occupational Health & Safety
(3) The student follows operating instructions for tools and equipment to perform a given task. The student is expected to:	(A) select, use, maintain, and store appropriate hand tools to perform a given task	Hand Tool ID & Terminology I
(3) The student follows operating instructions for tools and equipment to perform a given task. The student is expected to:	(B) select, use, maintain, and store appropriate power equipment such as tools powered by electric, pneumatic, and internal combustion engines	Large Wood Power Tools - II: Safety, Operation & ID
(3) The student follows operating instructions for tools and equipment to perform a given task. The student is expected to:	(C) select and use measuring and marking devices	Marking & Measuring Devices
(4) The student identifies and performs electric wiring skills. The student is expected to:	(A) identify principles of electricity and wiring terminology	Principles of Electricity
(4) The student identifies and performs electric wiring skills. The student is expected to:	(B) install electric wiring components and fixtures to comply with governmental regulations and applicable codes	Installation: Electrical Wiring & Control Systems
(4) The student identifies and performs electric wiring skills. The student is expected to:	(C) maintain electric motors	Electrical Motor Selection & Maintenance
(5) The student performs plumbing skills. The student is expected to:	(A) identify and use plumbing tools	Installation: Plumbing Equipment & Fixtures
(6) The student performs concrete construction skills. The student is expected to:	(A) project cost estimates for materials	Concrete: Constructing Forms & Curing
(7) The student performs carpentry skills. The student is expected to:	(A) identify materials used in agricultural construction	Installation: Windows Installation: Roofing
(7) The student performs carpentry skills. The student is expected to:	(C) demonstrate basic carpentry skills	Installation Foundation & Subflooring
(7) The student performs carpentry skills. The student is expected to:	(D) paint and protect a project with coatings	Installation: Doors
(8) The student identifies fencing methods. The student is expected to:	(A) select fencing materials	Fencing Tools & Techniques
(8) The student identifies fencing methods. The student is expected to:	(B) plan and install fences	Fencing Tools & Techniques
(9) The student performs appropriate cold and hot metal techniques. The student is expected to:	(A) identify types of metal	Introduction to Metals
(9) The student performs appropriate cold and hot metal techniques. The student is expected to:	(B) cut, file, shape, and drill metal	Hydraulic Pipe Bending
(9) The student performs appropriate cold and hot metal techniques. The student is expected to:	(C) select and operate oxy-fuel welding and cutting equipment to meet standards	Oxy-Fuel Cutting
(9) The student performs appropriate cold and hot metal techniques. The student is expected to:	(D) select and operate electric-arc welding equipment to meet standards	Shielded Metal Arc Welding: Preparation & Safety
(9) The student performs appropriate cold and hot metal techniques. The student is expected to:	(E) perform specialty welding and cutting techniques to meet standards	Shielded Metal Arc Welding: 7018 Electrodes Gas Metal Arc Welding: Aluminum Gas Metal Arc Welding: Sheet Metal Gas Tungsten Arc Welding: Pipe Flux Cored Arc Welding Plasma Arc Cutting
(10) The student applies processes relating to assembly of equipment in agricultural systems operations. The student is expected to:	(A) select, use, and maintain appropriate tools, equipment, and facilities	Small Gas Engine: Disassembly Small Engine Tools, Parts & Equipment: Identification & Operation Welding Shop Safety
(10) The student applies processes relating to assembly of equipment in agricultural systems operations. The student is expected to:	(B) identify and determine properties, types, and uses of metal	Introduction to Metals
(11) The student plans and performs cost effective construction techniques. The student is expected to:	(A) analyze site, equipment, and permit requirements	Building Construction: Basic Surveying

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(11) The student plans and performs cost effective construction techniques. The student is expected to:	(B) operate computer-aided drafting design software	Computer-Aided Design Techniques
(11) The student plans and performs cost effective construction techniques. The student is expected to:	(C) develop, read, and interpret designs and sketches	Introduction to Construction Drawings
(11) The student plans and performs cost effective construction techniques. The student is expected to:	(E) measure, mark, and cut material	Hydraulic Pipe Bending
(11) The student plans and performs cost effective construction techniques. The student is expected to:	(F) perform specialized nonmetallic fabrication techniques	Non-Metallic Fabrication Techniques