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Correlation of Agricultural Mechanics and Technical Systems, 1e, ©2017 to the

Texas Essential Knowledge and Skills (TEKS) Course: §130.26 Agricultural Mechanics and Metal Technologies (MLC 9706)

The following chart lists the Knowledge and Skills Statements and Student Expectations for the Texas Essential Knowledge and Skills (TEKS) for Agricultural Mechanics and Metal Technologies. For each Student Expectation, the corresponding pages in *Agricultural Mechanics and Technical Systems* are listed.

Student Expectations	Textbook Page(s)	
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:		
(1) (A) identify career development and entrepreneurship opportunities in the field of power, structural, and technical agricultural systems	24–26, 37, 47, 53, 511	
(1) (B) apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation of power, structural, and technical agricultural systems	31–34, 37–38, 44–45, 47–55, 665–671, 930–934, 956–972	
(1) (C) examine licensing, certification, and credentialing requirements to maintain compliance with industry requirements	24–28, 36, 813, 849–851	
(1) (D) demonstrate knowledge of personal and occupational health, safety, and first-aid practices in the industry	88-113	
(1) (E) identify employer expectations and appropriate work habits	24–34, 37–38, 47–48	
(1) (F) demonstrate characteristics of good citizenship, including advocacy, stewardship, and community leadership	44–48, 53–54	
(2) The student develops a supervised agriculture experience program. The student is expected to:		
(2) (A) plan, propose, conduct, document, and evaluate a supervised agriculture experience program as an experiential learning activity	27–28, 48–60, 311	
(2) (B) apply proper record-keeping skills as they relate to the supervised agriculture experience	27–28, 58–60	
(2) (C) participate in youth leadership opportunities to create a well-rounded experience program	24, 45–47	



Student Expectations	Textbook Page(s)	
(2) (D) produce and participate in a local program of activities using a strategic planning process	24–25, 45–58	
(3) The student follows operating instructions for tools and equipment to perform a given task. The student is expected to:		
(3) (A) select, use, maintain, and store appropriate hand tools to perform a given task	144–173	
(3) (B) select, use, maintain, and store appropriate power equipment such as tools powered by electric, pneumatic, and internal combustion engines	180–219	
(3) (C) select and use measuring and marking devices	121–134, 712–713	
(4) The student identifies and performs electric wiring skills. The student is expected to:		
(4) (A) identify principles of electricity and wiring terminology	520–537, 549–559, 571–584	
(4) (B) install electric wiring components and fixtures to comply with governmental regulations and applicable codes	559–564, 580–592	
(4) (C) maintain electric motors	617–620	
(5) The student performs plumbing skills. The student is expected to:		
(5) (A) identify and use plumbing tools	630–639, 663–664, 665–671	
(5) (B) identify plumbing fixtures	626–630, 633–642, 654–660	
(6) The student performs concrete construction skills. The student is expected to:		
(6) (A) project cost estimates for materials	260–261, 355–357	
(6) (B) form and pour concrete slabs	355–362, 364–367	
(7) The student performs carpentry skills. The student is expected to:		
(7) (A) identify materials used in agricultural construction	226–248, 408	
(7) (B) identify elements of a cost estimate and prepare a bid package for a planned project	258–261, 273	
(7) (C) demonstrate basic carpentry skills	280–301, 310–320	
(7) (D) paint and protect a project with coatings	316–319	
(8) The student identifies fencing methods. The student is expected to:		
(8) (A) select fencing materials	495–497, 499–507	
(8) (B) plan and install fences	497–500, 507–513	
(9) The student performs appropriate cold and hot metal techniques. The student is expected to:		
(9) (A) identify types of metal	230–234, 706–709	



Student Expectations	Textbook Page(s)	
(9) (B) cut, file, shape, and drill metal	210–213, 552, 713–729, 763–766, 885–892	
(9) (C) select and operate oxy-fuel welding and cutting equipment to meet standards	745–770	
(9) (D) select and operate electric-arc welding equipment to meet standards	779–785, 789–795, 822–832, 837–843, 859–873	
(9) (E) perform specialty welding and cutting techniques to meet standards	846–851, 868–873, 885–892	
(10) The student applies processes relating to assembly of equipment in agricultural systems operations. The student is expected to:		
(10) (A) select, use, and maintain appropriate tools, equipment, and facilities	73–81, 144–173, 180–184, 186–219, 470–478, 511–512, 665–671, 683–694, 697–698, 924–934, 956–970	
(10) (B) identify and determine properties, types, and uses of metal	230–234, 706–709, 733–736	
(11) The student plans and performs cost-effective construction techniques. The student is expected to:		
(11) (A) analyze site, equipment, and permit requirements	181–184, 256–257, 259, 273, 326–334, 353–355, 362–367, 379–389, 452–460	
(11) (B) operate computer-aided drafting design software	270–271, 408	
(11) (C) develop, read, and interpret designs and sketches	261–273, 308–310, 406–408, 661–662, 710	
(11) (D) estimate material needs and costs	258–261, 399–400	
(11) (E) measure, mark, and cut material	121–134, 285–294, 393–399, 713–721, 885–892	
(11) (F) perform specialized nonmetallic fabrication techniques	244–246, 313–315, 390–399	