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SEC – Agricultural Power and Machinery Blueprints

This document contains the blueprints for the concentration areas
 in secondary Agricultural Power and Machinery.

Course Code(s)	Test Code	Program Name	Supplemental Materials/Notes
991304, 991305, 991301	10104Y2-2014	Agricultural Power and Machinery	

Curriculum	Perkins Assessment 2014-15		Teacher Evaluation Pilot 2014-15			
	Y1 Post-Test	Y2 Post-Test	Y1 Baseline	Y1 Post-Test	Y2 Baseline	Y2 Post-Test
Agricultural Power and Machinery	MS-CPAS2*	MS-CPAS2*	MS-CPAS2*	MS-CPAS2*	MS-CPAS2*	MS-CPAS2*

* These assessments are subject to change based on funding and policy changes/updates. Information for test coordinators will be disseminated on the ordering process for the national certification by the Research and Curriculum Unit at Mississippi State University.



MS-CPAS2 Blueprint Summary

Assessment: Agricultural Power and Machinery Y2
Test Code: 10104Y2-2014
CIP Code: 010204
Course Codes: 991304, 991305, 991301
Type: CP

The MS-CPAS2 Blueprint Summary indicates the number of assessment questions related to each unit on the assessment and indicates the relative emphasis placed on each unit. All of the listed competencies will appear on the assessment, but because of the length of the assessment, not every competency will be equally represented in the assessment.

The MS-CPAS2 Blueprint Summary includes a variety of information, which is explained below:

Terms and Definitions	
Assessment:	This signifies the name of the assessment, which corresponds with the name of the pathway or program.
CIP Code:	Developed by the U.S. Department of Education's National Center for Education Statistics (NCES), CIP codes are a federal coding system utilized for assessment and reporting of fields of study and program completions activity tracking.
Test Code:	A unique code that serves to numerically identify a specific assessment
DOK Levels:	Based on Webb's Depth of Knowledge (DOK), this signifies the assessment item difficulty factor to be expected in each unit. The three levels are as follows: <i>1 = Recall and Reproduction, 2 = Skills and Concepts, 3 = Short-term Strategic Thinking</i> Some postsecondary programs will not use DOK levels until the next revision.
Instructional Hours:	The total number of hours assigned to a unit per the pathway's curriculum
Total Items:	The total number of items assigned to each unit on the assessment. It is calculated as follows: <i>(Unit Instructional Hours / Total Instructional Hours) * Total Active Items</i>
Active Items:	The number of items on the assessment that will be graded
Field-test Items:	The number of items that are being field-tested, or piloted, to determine their eligibility for inclusion as an Active Item on future assessments. These items are not graded and, thus, will not impact the student's final score.
Total Assessed Items:	The total number of items on the given assessment. It is calculated as follows: <i>Active Items + Field-test Items</i>

For more information regarding this MS-CPAS2 Blueprint Summary, please contact the Mississippi Assessment Center by phone at 1.866.901.7433 or by e-mail at helpdesk@rcu.msstate.edu.



Assessment: Agricultural Power and Machinery Y2 Test Code: 10104Y2-2014 CIP Code: 010204 Total Hours: 185	DOK Level(s)			Instructional Hours	Total Items
	1	2	3		
Unit 2: Advanced Cutting and Welding	1	2		50	22
1. Prepare parts from simple sketches or drawings. 2. Layout and fit up joints from welding symbol information. 3. Perform welding operations to prepare a welded fabrication from simple sketches or drawings. 4. Make minor external repairs to equipment and accessories. 5. Perform advanced arc welding. 6. Perform Metal Inert Gas (MIG) welding. 7. Perform Tungsten Arc (TIG) welding. 8. Perform Plasma Arc Cutting (PAC).					
Unit 3: Hydraulic Systems	1	2		25	11
1. Explain the physical laws of hydraulics. 2. Identify types of hydraulic pumps. 3. Identify and describe the functions of hydraulic control valves. 4. Identify and describe the functions of hydraulic actuators. 5. Explain the functions of hydraulic systems. 6. Demonstrate maintenance of hydraulic systems per manufacturer's specifications. 7. Demonstrate the operation of a hydraulic system.					
Unit 4: Diesel Engines	1	2		35	15
1. Describe basic operating principles of diesel engines. 2. Identify the components of the diesel engine. 3. Identify the components of the lubrication system. 4. Identify the components of cooling system. 5. Identify the components of fuel system.					
Unit 5: Electrical/Electronics Systems	1	2		25	11
1. Explain the functions of the components of the cranking and charging systems. 2. Demonstrate troubleshooting procedures for the electrical system. 3. Investigate electronics systems used on tractors, implements, and stationary systems.					
Unit 6: Agricultural Equipment Maintenance and Operation	1	2	3	50	21
1. Review manufacturer's manuals for periodic maintenance of agricultural equipment. 2. Review manufacturer's manuals for seasonal maintenance of agricultural equipment. 3. Review the operator's manuals to determine procedures for safe operation of agricultural equipment. 4. Operate tractor and equipment safely. 5. Describe principles of troubleshooting agricultural equipment.					
Active Items					80
Field-Test Items					20
TOTAL ASSESSED ITEMS					100