

## Competency Task List – Secondary Component

### Agricultural Mechanization, General CIP 01.0201

High School Graduation Years 2026, 2027, 2028

#### 100 Supervised Agricultural Experience

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
101	Develop a Supervised Agricultural Experience (SAE) based upon individual interests and career goals.		

#### 200 Business Development

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
201	Discuss the historical significance of agriculture to US and global economic strength.		
202	Maintain business and financial records.		
203	Analyze financial to sources of credit for agricultural product distribution.		
204	Use computers to enter, access, or retrieve data.		
205	Prepare a technical report.		
206	Use telephone, mobile, and social media communication techniques.		
207	Analyze sales activities or agriculture business trends.		
208	Use product knowledge to meet customer needs.		
209	Access multi-media advertising services.		
210	Develop a sales presentation.		
211	Demonstrate and communicate goods and/or services to the customer.		
212	Develop a logistics plan.		
213	Provide customer service needs and training.		

### 300 Surveying and Land Use

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
301	Define soil erosion and its causes.		
302	Identify the various types of land uses.		
303	Perform a site evaluation utilizing surveying equipment.		
304	Evaluate a sites suitability for various agricultural purposes.		

### 400 History and Sustainability of Agricultural Power Systems Technologies

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
401	Describe the historical development of agricultural technologies in power systems.		
402	Identify the potential impact of global applications and emerging technologies towards sustainability.		

### 500 Safety

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
501	Complete first aid awareness training.		
502	Complete an OSHA 10-hour equivalent safety course.		

### 600 Tools, Equipment, and Hardware

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
601	Operate hand tools and power tools.		
602	Operate various gauges and testers used in agricultural power equipment.		

	RESERVED (603)		
604	Operate powered shop equipment.		
605	Operate and apply fasteners usage.		
606	Identify and apply concepts for measuring devices.		

## 700 Metal Fabrication and Welding

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
701	Identify various types of metals.		
702	Operate arc and stick welding and cutting equipment.		
703	Operate soldering equipment.		
704	Repair sheet metal products.		
705	Fabricate a metal product.		

## 800 Technical Documentation

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
801	Interpret blueprints and schematics for welding, building, electrical, and hydraulic systems.		
802	Create a technical drawing.		

## 900 Engine Systems

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
901	Select mechanical equipment appropriate to task.		
902	Measure power output of various equipment.		
903	Service and repair powertrain.		
904	List and describe the operation of various engine types.		

905	Use specialized tools for engines.		
906	Use measuring and calibration devices.		
907	Troubleshoot an engine and return it to working order.		

### 1000 Machinery and Equipment Systems

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
1001	Review operating and service resources.		
1002	Perform safety inspections.		
1003	Operate and calibrate machines.		
1004	Perform disassembly and assembly procedures.		
1005	Operate machinery and power units.		
1006	Maintain, troubleshoot, and repair machines.		

### 1100 Energy Systems

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
1101	Identify the parts and functions of specific energy systems, e.g., electrical power, solar power, wind power, mechanical power, and chemical/carbon-based power systems.		
1102	Identify the principles of power transmission, heat transfer, evaporation, hydraulic systems, conductivity, satellite transmission, conservation, and regulations.		

### 1200 Agricultural Structures

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
1201	Develop an itemized bill of materials and determine costs.		
1202	Layout a structure foundation.		

1203	Calculate, mix, and finish concrete and masonry units.		
1204	Select building materials.		
1205	Operate woodworking equipment/machinery, as needed in the agricultural sector.		
1206	Design a building for an application in agriculture using new technologies.		
1207	Construct various switched electrical branch circuits.		
1208	Troubleshoot electrical systems.		

### 1300 Plumbing, Irrigation, and Water Systems

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
1301	Cut, assemble, and pressure test components within various types of water supply systems.		
1302	Calculate pump and pipe size based on water requirements, head, and friction losses for water and irrigation systems.		
1303	Identify the components in various agricultural irrigation systems.		

### 1400 Environmental and Natural Resource Systems

Item	Task	(X) Indicates Proficiency <sup>1</sup>	Secondary Course Crosswalk
1401	Identify environmental problems and use equipment and tools needed to measure the issues in agriculture.		
1402	Use various map types and aerial photos for natural resource management and conservation.		
1403	Identify global positioning systems, remote sensing, and collection equipment for various applications.		
1404	Identify and evaluate storage and waste disposal systems and procedures.		

<sup>1</sup> Student Demonstrated Entry-Level Industry Proficiency as Indicated by (X)

Secondary CTE Instructor Signature \_\_\_\_\_ Date \_\_\_\_\_

Student Signature \_\_\_\_\_ Date \_\_\_\_\_