# Competency Task List – Secondary Component

# Agricultural Mechanization, General CIP 01.0201

# High School Graduation Years 2022, 2023, 2024

## 100 Supervised Agricultural Experience

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

## 200 Business Development

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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

## 600 Tools, Equipment, and Hardware

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 601 | Operate hand tools and power tools. |   |   |
| 602 | Operate various gauges and testers used in agricultural power equipment. |   |   |
| 603 | RESERVED |   |   |
| 604 | Operate powered shop equipment. |   |   |
| 605 | Operate and apply fasteners usage. |  |  |
| 606 | Identify and apply concepts for measuring devices. |  |  |

## 700 Metal Fabrication and Welding

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | Secondary Course Crosswalk |
| 801 | Interpret blueprints and schematics. |   |   |
| 802 | Create a technical drawing. |   |   |

## 900 Engine Systems

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | 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, fluid movement, conductivity, satellite transmission, conservation, and regulations. |   |   |

## 1200 Agricultural Structures

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | 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

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| Item | Task  | (X) Indicates Proficiency 1 | 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. |  |  |

1 Student Demonstrated Entry-Level Industry Proficiency as Indicated by (X)

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

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