

Agricultural Machinery Technology

Exam Information	Description
Exam number 114 Items 25 National Career Cluster Agricultural Systems Technology 1 Agricultural Technical Systems 2 Certification available Yes	The Agricultural Machinery Technology industry certification exam assesses learners' knowledge of careers that repair, maintain, or restore agricultural machinery and equipment.

Exam Blueprint and Performance Skills

Standard	Percentage of exam score
1. Personal And Leadership Development	23%
2. Supervised Agricultural Experience	7%
3. Agricultural Machinery/Equipment Safety	13%
4. Safety	13%
5. Autonomous Systems And Technology	10%

6. Plan Development For Repairing/Maintaining/Restore/Agricultural Machinery Equipment	20%
7. Restore Agricultural Machinery Equipment	13%

*Includes performance skill evaluation

Standard 1 - Personal and Leadership Development

Candidates will understand the importance of workplace skills and will implement and practice these skills in the classroom, laboratory, and work-based experiences

Objective 1 Use communication skills to effectively interact with others.

1. Understand when it is appropriate to listen and to speak
2. Understand and follow verbal and written instructions for classroom and laboratory activities.
3. Reflect on assigned work and then communicate progress relative to completion.

Objective 2 Effectively use teamwork to respectfully work with others.

1. Work with a team to complete assignments and projects.

Objective 3 Use the critical thinking and problem-solving skills; reason, analyze, reflect, evaluate, and interpret.

1. Use generally accepted industry standards to analyze, evaluate, troubleshoot and diagnose the challenges associated with a specific repair, maintenance, or restoration project.

Objective 4 Be dependable, reliable, steady, trustworthy, and consistent in performance and behavior.

1. Use generally accepted industry standards to analyze, evaluate, troubleshoot and diagnose the challenges associated with a specific repair, maintenance, or restoration project.

Objective 5 Be accountable for results.

1. Assure work quality by using industry standards for process, procedure, and evaluation.
2. File a weekly/bi-weekly written report on progress toward completion of assignments and projects.

Objective 6 Be familiar with the legal requirements and expectations of the course.

1. Be familiar with the course disclosure statement and all requirements for successful completion of the course.
2. Demonstrate workplace ethics.

Objective 7 Demonstrate employment skills.

1. Build a job search network and find job leads.
2. Write a resume and create a job portfolio.
3. Write a letter of application.
4. Complete a job application.
5. Participate in an actual or simulated job interview.

Optional: Standard performance evaluations on the final page of this document

Standard 2 - Supervised Agricultural Experience

Candidates will participate in a supervised agricultural experience (SAE).

Objective 1 Candidates will participate in an entrepreneurial, paid employment, research, or exploratory-focused work-based experience outside the classroom.

Objective 2 Candidates are required to keep a personal record/journal/log of their work-based experience

Optional: Standard performance evaluations on the final page of this document

Standard 3 - Agricultural Experience

Candidates will understand agricultural machinery/equipment safety.

Objective 1 Identification of and safety pertaining to Shear and Cutting Points.

Objective 2 Identification of and safety pertaining to Pinch Points.

Objective 3 Identification of and safety pertaining to Wrap Points.

Objective 4 Identification of and safety pertaining to Free-Wheeling Points.

Objective 5 Identification of and safety pertaining to Pull-in Points.

Objective 6 Identify the appropriate use of the ROPS (Roll-Over Protective Structure) on agricultural machinery.

Objective 7 Discuss the importance of terrain in the operation of agricultural machinery.

Optional: Standard performance evaluations on the final page of this document

Standard 4 - Agricultural Machinery/Equipment Safety

Candidates will work to create a culture of safety.

Objective 1 Complete a candidate safety pledge (disclosure statement).

Objective 2 Respond to first aid requirements as allowed by school policy.

1. Locate first-aid kits and investigate their contents and discuss the use of the items as allowed by school policy.
2. Discuss appropriate safety responses in an accident or emergency.
3. Demonstrate the use of simple first aid in an accident with an injury.

Objective 3 Follow safe practices.

1. Use appropriate PPE (Personal Protective Equipment) at all times.
2. Eliminate workplace practices that distract attention and create an unsafe environment, e.g. cell phones and other electronic devices.
3. Candidates will identify the proper method for extinguishing different classes of fires.

Objective 4 Perform housekeeping duties.

1. Keep personal workspace clean and work with others to clean and organize community space.

Objective 5 Successfully complete safety tests or demonstrations on equipment use and equipment safety.

1. Candidates will demonstrate an understanding of safe practices with 100% accuracy.

Optional: Standard performance evaluations on the final page of this document

Standard 5- Autonomous Systems and Technology

Candidates will be able to program and operate autonomous systems and technology.

Objective 1 Candidates will be able to define autonomous systems within agriculture.

Objective 2 Candidates will be able to identify different autonomous systems.

Objective 3 Candidates will be able to apply autonomous systems in agricultural applications.

Objective 4 Candidates will be able to operate autonomous systems in agricultural applications.

Optional: Standard performance evaluations on the final page of this document

Standard 6 - Plan Development for Repairing/Maintaining/Restore Agricultural Machinery Equipment

Candidates will develop a plan to repair/maintain/restore agricultural machinery/equipment.

Objective 1 Select agricultural machinery/equipment for repair/maintenance/restoration.

1. Analyze the process to make sure that it is cost effective to repair/maintain or restore the project.

Objective 2 Interpret and analyze manuals, schematics or other resources required for the repair/maintenance/restoration of a project.

Objective 3 Develop a written estimate including itemization of parts, labor, time, and total cost.

Objective 4 Prepare a parts list, parts order, and secure the parts.

Objective 5 Develop a production schedule that follows these steps in order:

1. Projected cost analysis
2. Analyze manuals/schematics
3. Develop written estimate
4. Order and secure parts
5. Project schedule

Optional: Standard performance evaluations on the final page of this document

Standard 7 - Restore Agricultural Machinery Equipment

Candidates will repair/maintain/restore agricultural machinery/equipment.

Objective 1 Demonstrate proper equipment and tool setup and usage.

Objective 2 Diagnose, troubleshoot, and disassemble as needed.

Objective 3 Clean and evaluate parts for manufacturer specifications.

Objective 4 Reflect on progress, evaluate next steps, and make adjustments relative to completion of project.

Objective 5 Successfully complete the project including a project portfolio which includes:

1. Project description
2. Pictures documenting the process
3. Logbook of hours worked
4. Expense report

Optional: Standard performance evaluations on the final page of this document

Performance Skills Evaluation

Exam name: Agricultural Machinery Technology

Candidate Name: _____

Performance assessments may be completed and evaluated any time before the certification is issued. The following performance skills can be used in connection with the associated standards and exam. The evaluator will function as the subject matter expert to determine if the candidate meets the skills requirements with a Yes/No for passing.

Standard 1 – Personal and Leadership Development - Set and meet goals on attendance and punctuality. - File a weekly/bi-weekly written report on progress toward completion of assignments and projects. - Write a resume and create a job portfolio.	Pass:
Standard 2 – Supervised Agricultural Experience (SAE) Keep a personal record/journal/log of their work-based experience.	Pass:
Standard 3 – Agricultural Machinery/Equipment Safety Identify shear and cutting points, pinch points, wrap points, free-wheeling points, and pull-in points on all types of agricultural machinery.	Pass:
Standard 4 – Safety Identify shear and cutting points, pinch points, wrap points, free-wheeling points, and pull-in points on all types of agricultural machinery	Pass:
Standard 5 – Autonomous Systems and Technology Program and operate autonomous systems in agricultural applications.	Pass:
Standard 6 – Development for Repairing/Maintaining/Restoring Machinery/ Equipment - Develop a written estimate including itemization of parts, labor, time, and total cost. - Develop a production schedule.	
Standard 7 – Repair/Maintain/Restore Agricultural Machinery/Equipment Successfully complete the repair/maintenance/restoration of agricultural machinery/equipment.	

Evaluator Name:

Date:
