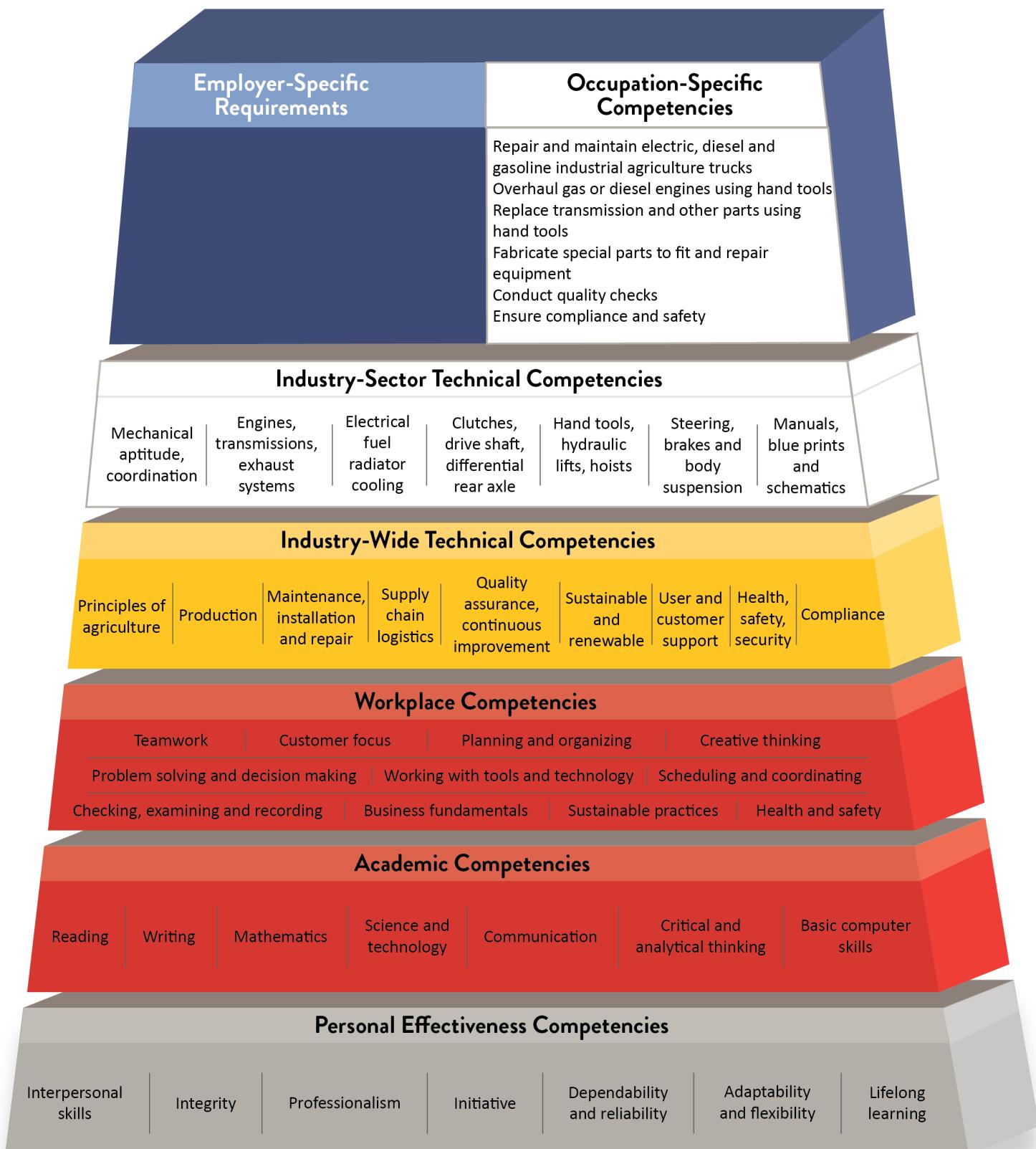


# Minnesota Dual-Training Pipeline

## Competency Model for Agriculture

### Occupation: Agriculture Equipment Mechanic



Based on: Building Blocks for Competency Models – Foundational Competencies, Employment and Training Administration, United States Department of Labor, February 2025. For more detailed information about competency model creation and sources, visit [dli.mn.gov/business/workforce/agriculture](https://dli.mn.gov/business/workforce/agriculture).



## Competency Model for Agriculture Equipment Mechanic

**Agriculture Equipment Mechanic** – Agriculture equipment mechanics inspect, repair, or overhaul large industrial agricultural trucks and machines with gasoline or diesel engines.

\*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job (OJT) training opportunities.

### Industry-Sector Technical Competencies

**Related Instruction** for dual training means the organized and systematic form of education resulting in the enhancement of skills and competencies related to the dual trainee's current or intended occupation.

- **Mechanical aptitude, coordination** – Ability to understand how machines work and possess the physical coordination and dexterity to use tools.
- **Engines, transmissions, exhaust systems** – Training on how engines, transmissions and exhaust systems work on machinery and how to maintain and repair them.
- **Electrical fuel radiator cooling** – Understand how engine cooling systems work and how to maintain, repair and replace them.
- **Clutches, drive shaft, differential rear axle** – Training on how to maintain, repair and replace clutches, drive shafts, and differential rear axles.
- **Hand tools, hydraulic lifts, hoists** – Knowledge on how to safely use hand tools, lifts and hoists while working on machinery.
- **Steering, brakes and body suspension** – Training on how to maintain, repair and replace steering, brakes and body suspension systems.
- **Manuals, blueprints and schematics** – Understand how to read technical information found in manuals, blueprints and schematics relating to the machinery.

## Occupation-Specific Competencies

**On-the-Job Training** is hands-on instruction completed at work to learn the core competencies necessary to succeed in an occupation. Common types of OJT include job shadowing, mentorship, cohort-based training, assignment-based project evaluation and discussion-based training.

- **Repair and maintain electric, diesel and gasoline industrial agriculture trucks** – Demonstrate understanding of how to maintain and repair industrial agriculture truck engines and machinery with a variety of engine modes and components.
- **Overhaul gas or diesel engines using hand tools** – Demonstrate process of overhauling an industrial agriculture engine.
- **Replace transmission and other parts using hand tools** – Ability to properly install replacement parts for agriculture equipment's transmission and on other parts of agriculture machinery.
- **Fabricate special parts to fit and repair equipment** – Demonstrate understanding of how to do fabricating of special parts for large agriculture equipment when required.
- **Conduct quality checks** – Be able to test and adjust repaired systems to meet manufacturers' performance specifications.
- **Ensure compliance and safety** – Know how to perform all responsibilities in compliance with regulations, standards, and procedures to ensure safety of all.

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