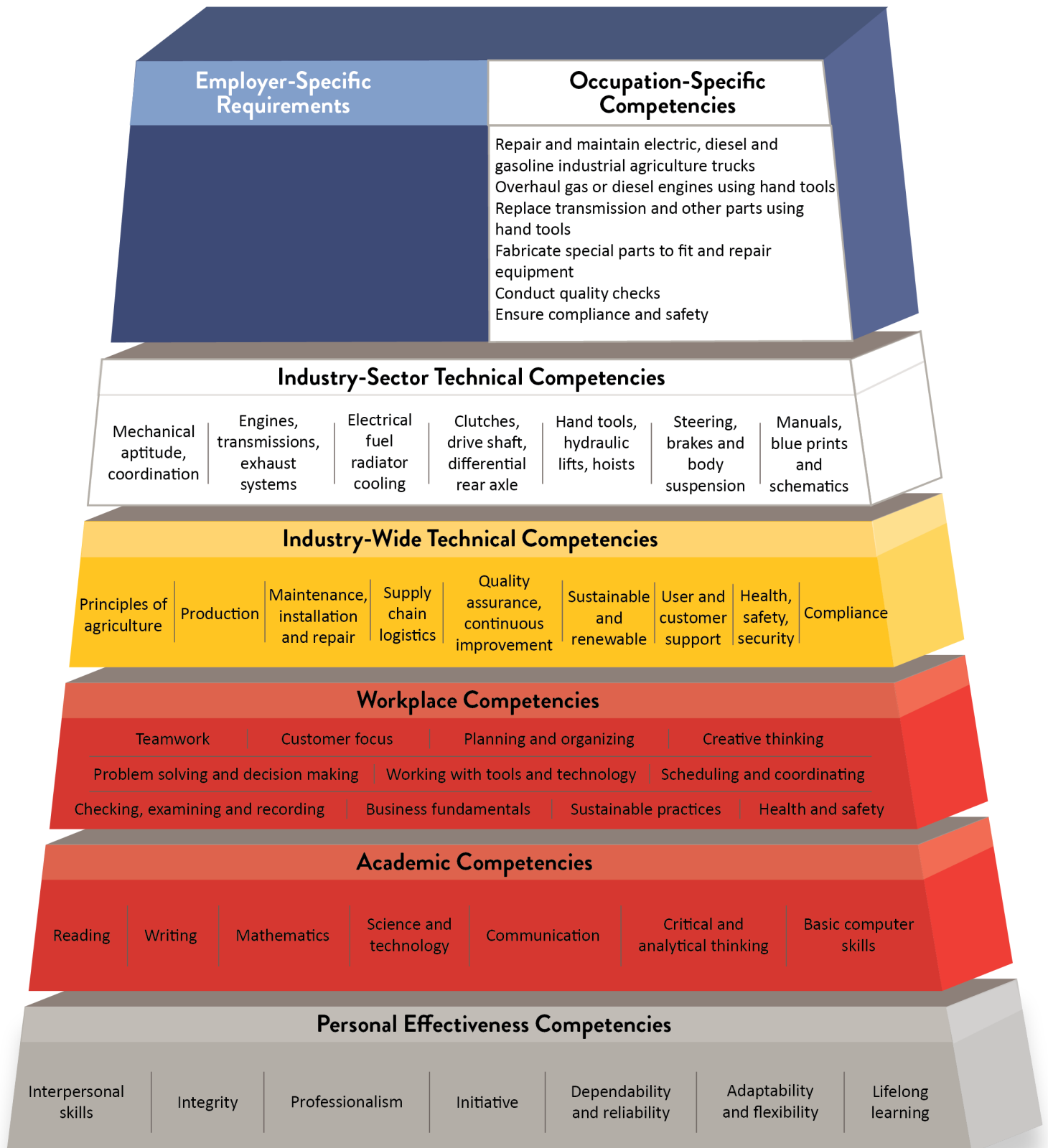


Minnesota Dual-Training Pipeline

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.

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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