

# AEM Workforce Update

**Carl Aakre**

# CASE 4 Learning

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- Initiative of the ***National Council for Agricultural Education***
- Design inquiry-based agricultural curriculum for middle and high school classrooms
- Offer lifetime certification, training, and support for teachers
  - Prepare students for college and career readiness

# Core Value Impact of AEM

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## ***Purposeful Curriculum***

- *Ag Equipment Maintenance and Technology*
- *Small Gas Engines*
- *Ag Power and Technology*
- *CASE Safety Module*

## ***Student-Centered Learning***

- 6,250 students per year
  - 50% reporting
  - Estimate 12,000+ students

## ***Teacher Professional Development***

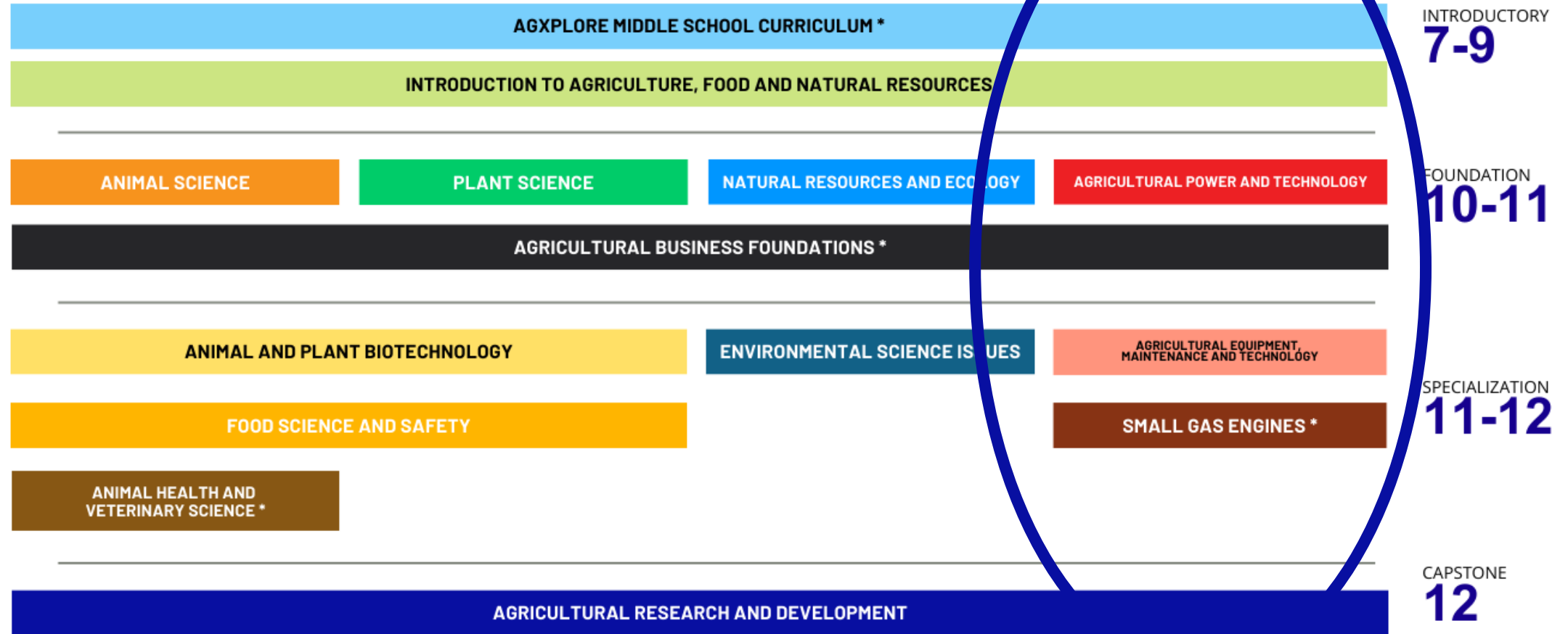
- 630 Certified teachers
- 225 Scholarships

## ***Fostering Connection and Growth***

- NSF ATE committees
- High School Recognition
- Industry-Teacher connections

# Purposeful Curriculum

## CASE Courses and Instructional Levels



# Building Technical Skills

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- Service Procedures
- Diagnostic Procedures
- Reading Schematics
- Reports and work orders
- Employability skills
- Safety Procedures





# Teacher Professional Development

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# Professional Development Programming

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- Teaching methods
- Lesson planning
- Hands-on training
- Technical skill training



# Industry Connections

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- Teachers connected with industry partners
- Materials and Equipment
  - Listed in the curriculum and sent to the industry partners
- Field trips
  - Integrated into the curriculum
  - Written for the industry partner



# Example Curriculum Topics

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- Technician Expectations
- Powertrains
- Precision Systems
- Electrical Systems
- Diesel Systems
- Fluid Power Systems
- Field Applications



# Technical Applications in Agriculture Project

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- 2020-2024
- Results
  - 180-Day *Ag Equipment and Maintenance Technology* Curriculum
  - 8-Day Professional Development Program
  - 48 Teachers provided PD and materials at no costs
  - Free Safety Curriculum available for all teachers
  - 136 Teachers Certified to Date



# Ag Robotics and Automation Technologies Project

- 2024-2027
- Goals
  - 3 Automation Modules (Plant, Animal, and Food)
  - 3-Day Professional Development Program
  - Provide 64 Teachers PD and materials at no costs
  - Dual Credit/Certification



**MINNESOTA STATE**  
Northern Agricultural Center of Excellence



# Thank You!!!

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## Scholarship Program

- 8 years
- \$421,600
- 225 Teachers

## In-kind Support

- Curriculum Development and Review Committees
- Industry connections
  - Student field trips
  - Materials
- 630 teachers educating over 12,000 students per year
- Safety Module available to 3,500 teachers



# 2025 Teacher Opportunities

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## Summer Professional Development

- Ag Power and Tech
  - Washington State University
- Ag Equipment and Maintenance
  - Tulare, CA
  - Dickenson, ND

## Summer Field-Testing

- Ag Robotics and Automation
  - Staples, MN, - AgCentric

# Opportunities for Growth

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Secondary awareness of Industry Opportunities

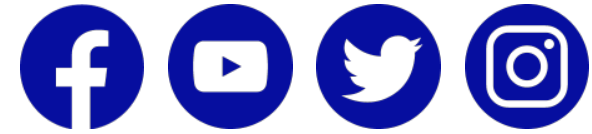
- Student Scholarships and Sponsorships
- Need for Technicians

Industry awareness of Educational needs

- Curricular requirements for preparing students
- Certification (program of study requirements)

***NSF-ATE Agricultural Center***

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