

### What is it?

This CDE tests both technical and agricultural mechanics skills and your ability to work with others while solving problems. During the event, members complete a written exam and demonstrate problem-solving and hands-on performance skills. The event takes a “systems” approach and emphasizes machinery and equipment systems, related industry and marketing systems, energy systems, structural systems and environmental/natural resource systems.

### Career Opportunities

#### *Career Clusters*

- Agricultural and Forestry Production
- Marketing, Merchandising, and Sales
- Science and Engineering
- Social Services
- Education and Communication

#### *Career opportunities found in the career cluster areas:*

- **Agricultural and Forestry Production** – field sales representative –agriculture equipment
- **Marketing, Merchandising, and Sales** – technical service representative
- **Science and Engineering** – diesel mechanic, agricultural electrician, agricultural equipment designer, machinist, equipment operator, agricultural safety engineer, irrigation engineer, welder, agricultural engineer
- **Education and Communication** – technical writer, postsecondary teacher

### Educational Requirements

**Vocational Technical & Industry Training** – welder, equipment operator, agricultural electrician, machinist,

**Associates Degree** – diesel mechanic, technical service representative

**Bachelor of Science Degree** – field sales representative- agricultural equipment, agricultural safety engineer, irrigation engineer, agricultural engineer, technical writer

**Graduate Degree** – agricultural equipment designer, postsecondary teacher

### SAE Opportunities

Rebuilding a lawnmower engine, overhauling a diesel engine, design and build a trailer, building a pole barn and fence, wiring a barn or other agricultural structure, employment at a tractor dealership

### Proficiency Award Areas

#### *Agriculture Mechanical Systems Cluster*

- Design and Fabrication
- Repair and Maintenance
- Energy Systems

### Curriculum Resources

- *FOS. John Deere.*
- *Agricultural Power and Machinery.* McGraw-Hill.
- *Mechanics in Agriculture.* Interstate Publishers.
- *Agricultural Mechanics Fundamentals and Applications.* Delmar Publishers.
- *Modern Agricultural Mechanics.* Interstate Printers and Publishers.
- *Developing Shop Safety Skills.* American Association for Vocational Instructional Materials.
- *Power Tool Safety and Operation.* Hobart.
- *Agricultural Mechanics I Lesson Plans.* UMC-IML.
- *Agricultural Mechanics II Lesson Plans.* UMC-IML.
- *Agricultural Buildings and Structures.* Reston Publications.
- *Practical Farm Buildings.* Interstate Publishers.
- *National Electrical Code (1993 edition).* NFPA.
- *Agricultural Structures, Volumes I and II.* UMC-IML
- National FFA Agricultural Mechanics web site: <http://web.missouri.edu/~pavt0689/natcon.html>