

Want to start using CASE in your agricultural education program?

**Attend a CASE Institute!**



- CASE Institutes are intense professional development led by practicing CASE teachers.
- The CASE curriculum is free to those who successfully complete a CASE Institute.
- Institutes are hosted by affiliated universities and colleges across the United States each summer.
- CASE teachers receive complimentary updates to the curriculum and many other services throughout their careers.
- For a complete listing of upcoming CASE Institutes and certification information, please visit [www.case4learning.org](http://www.case4learning.org) and click on "Professional Development."

# CASE



**STEM**  
EDUCATION  
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## MECHANICAL SYSTEMS IN AGRICULTURE



# CASE

*Curriculum for Agricultural  
Science Education*

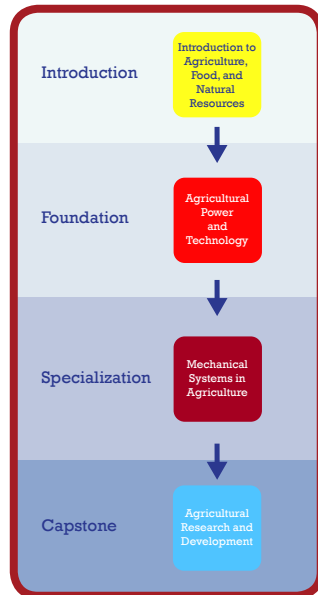
# CASE PROGRAM OF STUDY

“Career and Technical Education students should follow a program of study made up of a **purposeful sequence** of **rigorous courses** to build student knowledge and skills.”

– recommendation in Perkins reauthorization



We have carefully designed a program of study pathway for agricultural engineering that scaffolds student learning within courses and throughout the pathway.



## Mechanical Systems in Agriculture



All CASE pathways begin with the *Introduction to Agriculture, Food, and Natural Resources* course, then branch into four areas which focus on animals, plants, agricultural engineering, and natural resources.

Students develop a foundation of mechanical and engineering skills in *Agricultural Power and Technology*. Then students progress to the specialization course *Mechanical Systems in Agriculture*. All CASE pathways culminate with the capstone course *Agricultural Research and Development*.

## Mechanical Systems in Agriculture

*Mechanical Systems in Agriculture* is the specialization-level course designed to provide rigorous applications in the agricultural engineering field. Throughout the course, students use technical skills investigating small engines, agricultural structures, automation, and technology while becoming competent in the process used to operate, repair, engineer, and design agricultural tools and equipment.

### Mechanical Systems in Agriculture

Areas of study include:

- Engineering Design
- Computer Aided Design
- 3D Printing
- Structural Systems
- Small Engines
- Robotics
- Mechanical Drivetrains
- Fluid Power
- Geographic Information & Global Position Systems

**CASE provides teachers hands-on professional development to facilitate instruction.**

We are grateful to **John Deere** and **Firestone** for sponsoring the CASE *Mechanical Systems in Agriculture* course as a special project through the **National FFA Foundation**.

