



Curriculum for Agricultural Science Education (CASE) - Agricultural Power and Technology

2017-2018 STEM Scale-Up Program

Overview: CASE™ utilizes science inquiry for lesson foundation, and concepts are taught using activity-, project- and problem-base instructional strategies. In addition to the curriculum aspect of CASE™, the project ensures quality teaching by providing extensive professional development for teachers that leads to certification.

Grade Levels: 9-12

Program Summary

“Agricultural Power and Technology” course is a foundation course within the CASE™ sequence of courses. The course provides students a variety of experiences that are in the fields of agricultural engineering. Students are immersed in inquiry-based exercises that tie in the math and science of agricultural mechanics and engineering. Throughout the course, students apply technical skill while becoming competent in the process used to operate, repair, engineer and design agricultural tools and equipment.

Program Objectives and Description

Students develop a foundation of mechanical and engineering skills in Agricultural Power and Technology. Science of materials and energy used in agriculture are integrated throughout the course to develop a strong knowledge base. In addition, students will understand specific connections between science, math, and technical skills applied to Supervised Agricultural Experiences and FFA components that play an important role developing an informed agricultural education student. Students will investigate, experiment, and learn about documenting a project, solving problems, and communicating their solutions to their peers and members of the professional community.

What does the program provide to the educator?

- CASE™ Curriculum – 172 rigorous lessons that have been cross-walked to national content standards for math, science, English and agriculture with built in pedagogical/instructional strategies for differentiated instruction.
- Professional Development Training Institute
 - Two week training held during the summer
 - Lodging
 - Most meals
 - All institute material expenses
- Materials/Equipment to implement CASE™
- Workshops at NAAE Conference
- Access to NAAE Communities of Practice (Professional Learning Communities) on the state and regional level
- Teachers Services including purchasing lists, technology support and professional development
- Purposeful assessment of the concepts taught

What is required by the educator in order to implement this program?

- Attend two weeks of CASE™ Curriculum Institute (Institute dates and locations will vary)
- Commit to adopt and teach CASE™ curriculum upon return from institute (2018-2019 school year)
- Travel expenses above the grant stipend
- Secure equipment and supplies to teach CASE™ course above the award allocation

Website (with link to Standards Alignment): <http://www.case4learning.com/index.php/curriculum/case-courses/agricultural-power-and-technology> and http://www.case4learning.org/images/documents/APT_CASE_Brochure_2016smir.pdf

Program Video: https://www.youtube.com/watch?v=YNGvaj_fztA