

# Clovis Unified Agriculture Program & Facility

Clovis Unified has one of the top Agriculture Education programs in the State of California, along with the best high school agriculture facility. The McFarlane-Coffman Agriculture Center was established in August of 2000 to serve students from throughout Clovis Unified School District. Currently, the twenty-two-acre facility consists of two traditional classrooms, two science laboratory classrooms, three engineering classrooms, and a biotechnology facility. The Farm Laboratory includes animal units for beef, sheep, swine, goats and rabbits. Four acres of irrigated pasture houses cattle, sheep, and horse projects. Ten acres of row crop grounds, permanent orchard plantings, and state of the art greenhouses round out the land laboratory.



## Clovis East High School

2940 Leonard  
Clovis, CA 93619  
559-327-4000

### Clovis FFA Webpage

<https://sites.google.com/site/clovisffaca>

Clovis East Agriculture Staff	
<b>Agriculture Science Teacher &amp; Department Chair</b>	<b>Steve Gambril</b> stevegambril@cusd.com
<b>Animal Science &amp; Agriculture Science Teacher</b>	<b>Jennifer Knight</b> jenniferknight@cusd.com
<b>Agriculture Science &amp; Floral Design Teacher</b>	<b>Aireal Covey</b> airealcovey@cusd.com
<b>Agriculture Science Teacher</b>	<b>Amanda Shoffner</b> amandashoffner@cusd.com
<b>Agriculture Science Teacher</b>	<b>David Valdez</b> davidvaldez@cusd.com
<b>Agriculture Science Teacher</b>	<b>Emily Benson</b> emilyBenson@cus
<b>Agriculture Mechanics &amp; Engineering Teacher</b>	<b>Gregory Ravy</b> gregoryravy@cusd.com



# Agriculture Mechanics CTE Pathway



Clovis East High School

Agriculture Department

The agricultural mechanics pathway is part of the Agriculture Department at Clovis East High School. All CUSD high school students are welcome to enroll in our Agriculture Department courses.

## 2020-2021

Agriculture Education is a Comprehensive Program offering students classroom laboratory experience, leadership development through involvement in the National FFA Organization, and experiential learning through Supervised Agriculture Education projects.



## Why is Agriculture Mechanics Important?

Every area of Agriculture relies on Agriculture Mechanics. Plants and animals require water, shelter, and proper temperatures. Ag products need to be harvested and transported. Agriculturalists rely on mechanical systems throughout the entire production process.

All of the plumbing and irrigation systems in farms and ranches are designed, constructed, and installed by ag mechanics.

The electrical wiring that provides lights, heating, ventilation, and cooling, as well as computers, sensors, controllers, and timers must be designed and installed by people skilled in ag mechanics.

Ag mechanics are also responsible for constructing fences, barns, walkways, processing buildings and pack lines, as well as storage buildings and other ag structures.

The design and construction of trailers and tractor implements as well as welding of many other items used in agriculture also is the job of an ag mechanic.

Tractors, landscaping and land clearing equipment, harvesting equipment, and special purpose agriculture equipment is designed, constructed, and operated by ag mechanics.

All of the things designed, built, and used in agriculture also must be maintained, and the agriculture

Occupations Requiring no degree	Occupations Requiring an Associate Degree	Occupations Requiring a Baccalaureate Degree
Farm equipment parts repair/sales	Farm equipment sales manager	Ag or Irrigation Engineer
Welder	Caterpillar Equipment Tech	Urban or Regional Planner
Ag Industrial Mechanic	Certified AC, Electrical, or Hydraulic Tech	Ag Teacher
Fabricator	Agriculture Equipment Operator	Ag Construction Project Manager
Sheet metal worker	Farm Equipment Mechanic and Service Technician	Farm/Industrial Equipment Designer
Farm Machine operator	Farm Shop Manager	Agricultural Engineer
Electrician	Surveyor	AND MANY MORE!

## Agriculture Mechanics CTE Pathway Courses

### Agriculture Engineering 1

Grades eligible: 9 – 12  
 Prerequisite: none  
 Graduation Requirement Area: Elective  
 UC/CSU A-G Designation: Elective  
 Dual Enrollment: MAG 40 Reedley College



This class is intended to expose students to the careers in Agriculture Mechanics and Engineering industry in the area of welding, woodworking electrical wiring, plumbing, and other related fields.

### Agriculture Engineering 2 (P)

Grades eligible: 10-12  
 Prerequisite: Agriculture Engineering 1 with a "C" or better  
 Graduation Requirement Area: Visual and Performing Arts  
 UC/CSU A-G Designation: Elective

Agriculture Engineering 2 is a second level class in which students will continue their learning in the area of electrical wiring, welding, and woodworking and also learn new skills such as computer aided drafting, plasma arc cutting, fabrication techniques, and project design. Students can use these skills to promote their understanding of industry trends and techniques, and transfer these same techniques to a two or four-year college, or even straight to the workforce.

### Agriculture Engineering 3

Grades eligible: 11-12  
 Prerequisite: Agriculture Engineering 2 "C" or better  
 Graduation Requirement Area: Elective  
 UC/CSU A-G Designation: Elective



Students will use advanced welding procedures, learn electrical wiring principals, create portfolios and gain job seeking skills, use computer aided drafting and design software, as well as design budgets for and build projects

### Example Pathway Course Sequence

Grade	Introductory Course	Concentrat or Course	Capstone Course
9 <sup>th</sup>	Ag Science 1 or Sustainable Agriculture Biology	Agriculture Engineering 1	
10 <sup>th</sup>		Agriculture Engineering 2	
11/12 <sup>th</sup>		Agriculture Engineering 3	ROP Welding • Process Class • Fabrication Class

## Welding Fabrication & Applications (Level 3) and/or

## Ag Welding processes and Fabrication (Level 4)

Grades eligible: 11-12  
 Prerequisite: Agriculture Engineering 2/3 or Welding Processes and Procedures  
 Graduation Requirement Area: Elective  
 UC/CSU A-G Designation: Elective



Ag Welding Processes/Fabrication and Fabrication/Application courses develop students' knowledge and technical skills in the broad field of agriculture welding, construction, and engineering. The course emphasizes procedure, skills, and setup in welding and fabrication, including nonferrous metals in the advanced phases of Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and though project fabrication, repair, and industry procedure



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## Agriculture Related Enrichment Activities

The Clovis East Agriculture Program offers many opportunities for students to enrich their Agriculture Mechanics Experience.

- FFA Competitive Teams in Agriculture Mechanics and Agriculture Welding
- Supervised Agriculture Experience Projects which include plant, animal, soil, or ag mechanics
- Ag Mechanics shop work days and after school shop time for additional projects and skill enrichment time
- Class Field Trips, Lab Activities, and Guest Speakers also enhance the learning experience

