

# OPENING DOORS TO THE **FUTURE**



## **Business and Industry Endorsement** *Applied Agricultural Engineering (Welding)* **CTE Pathway**

Grade	Language Arts	Math	Science	Social Studies	Required CTE Courses	Potential Certification Opportunities
9 <sup>th</sup>	English I	Algebra I	Biology	World History	* Principles of Agriculture (1 Credit)	Certifications: AWS.D1.1 & AWS D9.1 Welding
10 <sup>th</sup>	English II	Geometry	Chemistry		*Ag Mechanics and Metal Tech (1 Credit)	
11 <sup>th</sup>	English III	Approved 3 <sup>rd</sup> Year Math	Approved 3 <sup>rd</sup> Year Science	U.S. History	* Ag Structures Design and Fabrication <sup>A</sup> (1 Credit)	
12 <sup>th</sup>	English IV <b>OR</b> Approved 4 <sup>th</sup> Year English	Approved 4 <sup>th</sup> Year Math	Approved 4 <sup>th</sup> Year Science	Government <b>AND</b> Economics	*Practicum in Ag Food and Natural Resources (Mech) <sup>A</sup> (2 Credits)	

Required Electives
*Business Information Management (1 Credit) Professional Communication (.5 Credit) *Dollars and Sense (.5 Credit)

Sample Career Opportunities	High School	On the Job Training	Professional Certificate	Associate's Degree	Bachelor's Degree	Advanced College Degree	Average Annual Salary	Possible Majors
Agricultural Engineers					X	X	\$64,792	*Industrial Technology *Diesel Mechanic *Agriculture Education *Mechanic
Welders	X	X	X	X			\$41,350	
Heavy Equipment Mechanic		X	X	X			\$47,299	
Outdoor Power Equipment and other Small Engine Mechanics		X	X	X			\$32,406	

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Principles of Agriculture, Food, and Natural Resources

TSDS PEIMS Code: 13002200 (PRINAFNR)

Grade Placement: 9–12

Credit: 1

GHS Section 4041

Available as a CTE Elective

Prerequisite: None.

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.

Agricultural Mechanics and Metal Technologies

TSDS PEIMS Code: 13002200 (AGMECHMT)

Grade Placement: 10–12

Credit: 1

GHS Section 4053

Available as a CTE Elective

Prerequisite: None.

Recommended Prerequisite: Principles of Agriculture, Food, and Natural Resources.

Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

Agricultural Structures Design and Fabrication

TSDS PEIMS Code: 13002350 (AGEQDF)

Grade Placement: 11–12

Credit: 2

GHS Section 4052

Designated for Pathway Students

Prerequisite: None.

Recommended Prerequisites: Agricultural Mechanics and Metal Technologies.

In Agricultural Equipment Design and Fabrication, students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication.

Practicum in Agriculture, Food, and Natural Resources

TSDS PEIMS Code: 13002500 (First Time Taken) (PRACAFNR1)

13002510 (Second Time Taken) (PRACAFNR2)

Grade Placement: 11–12

Credit: 2

GHS Section 4027

Designated for Pathway Students

Prerequisite: None.

Recommended Prerequisite: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster.

Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Agriculture, Food, and Natural Resources Career Cluster.