

Ag Mechanics Pathway

CTE Sector: Agriculture & Natural Resources—CTE Pathway: Agricultural Mechanics—CVHS

Workplace Skills Development

Teachers infuse workplace skills throughout daily lessons.

- Teamwork
- Cooperation
- Problem Solving
- Locating Information
- Planning
- Conflict Resolution
- Communication

High School 9 -12 Grades

9th –11th Grade Intro to Ag Mechanics

- Introduction to shop safety, tool identification, drafting, wood working, metal work, rope work, plumbing, concrete, electricity, Arc Welding and tool repair.

9th -11th Grade Intro to Power Mechanics

- Introduction to internal combustion, electrical systems, fuel and fuel systems, hydraulics, maintenance and repair. This class emphasizes hands-on exp.

Intermediate Ag Mechanics

- hands-on approach to welding basics and agriculture mechanics that focuses on specialized skills development in welding, fabrication, equipment operation and repair.

Industry and Postsecondary Education Connection

- Guest Speakers
- Industry/College Tours
- Resume Workshop
- Mock Interviews
- Employability Skills

- MJC instructors work with CUSD staff to insure continuity and equipment is up to date

- Teachers infuse workplace “soft skills” throughout daily lessons, including the Standards for Career Ready Practice.

10th -12th Grade

ROP Power Mechanics

- Fundamentals of operations and engine diagnostics. Project-based course with engine assembly and disassembly. Class works in conjunction with FFA and SAE.

Advanced Ag Mechanics

- Advanced skill development in welding, fabrication, equipment operation and repair. Includes Shielded Metal Arc (SMAW), Gas Metal Arc (GMAW), Plasma cutting, and Oxy-Fuel processes.

Industry activities to encourage & maintain student interest

Data collected and monitored by all parties

Modesto Junior College

Examples of Certificate/Degree courses in Ag Mechanics—Welding

Certificate: Adv. Heavy Equipment Tech.

- AG 115 - Intro to Ag Education & Careers
- AGM 215 - Machinery Management
- AGM 221 - Equipment Diagnosis & Repair
- AGM 240 - Truck & Tractor Power Trains
- AGM 242 - Diesel Engine Overhaul
- AGM 245 - Diesel Engine Fuel Systems & Diagnosis

Skills Recognition: Design & Fabrication

- WELD 200 - Arc and Gas Welding
- SM 331 - Sheet Metal and Installation 1
- WELD 204 - Gas Metal Arc Welding Flux Core Arc Welding
- WELD 325 - Design and Fabrication Processes

Degree/Transfer to 4 year University/Employment

Program of Study Worksheet

This Program of Study should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

Industry Sector: Agriculture & Natural Resources

Career Pathway: Agricultural Mechanics Pathway – Central Valley High School

Program of Study: Ag Mechanics

This Program of Study is a formalized Tech Prep articulated pathway Yes No

LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies	Career Technical Education Courses	Other Required Courses or Recommended Electives	SAMPLE Occupations Relating to this Pathway
SECONDARY	9	English 9	Int. Mathematics I or Int. Accelerated Mathematics I	Physics of the Universe or Adv Phys. of the Universe	AP Human Geography	Intro to Ag Mechanics or Intro to Power Mechanics	PE Foreign Language	Occupations requiring less than a Baccalaureate Degree -Farm Equipment Welder -Heavy Equipment Operator -Equipment Service Tech -Ag & Turf Technician Occupations requiring a Baccalaureate Degree -Agricultural Engineer -Machinery Technician Industry recognized certification, licenses, or credentials related to this pathway -Ag Mechanics/Welding -Ag Sales, Service Tech -Mechanized Ag Tech
	10	English 10	Int. Mathematics II or Int. Accelerated Mathematics II	Chemistry in the Earth Systems or Adv Chemistry in Earth Systems	World History or AP European History	Intro to Power Mechanics or Intermediate Ag Mechanics	PE Drivers Ed/Health Foreign Language	
	11	English 11	Int. Mathematics III or Int. Acc. Mathematics III or AP Statistics	Biology of The Living Earth or AP Biology	U.S. History or AP U.S. History	Beginning student can take Intro class; 2 nd yr student can take Intermediate; and 3 rd yr student can take Advanced	Foreign Language	
	12	English 12	Pre-Calculus or AP Calculus or AP Statistics	AP Physics or Anatomy Physiology	Principles of Democracy or AP Government or Economics	Power Mechanics or Advanced Ag Mechanics		
POSTSECONDARY	Year 13	Sample post-secondary courses at Modesto Junior College						
	Year 14	<u>Certificate: Adv. Heavy Equipment Tech.</u> AG 115 -Intro to Ag Education & Careers AGM 215- Machinery Management			<u>Skills Recognition: Design & Fabrication</u> WELD 200- Arc and Gas Welding SM 331- Sheet Metal and Installation 1			
	Year 15	AGM 221- Equipment Diagnosis & Repair AGM 240– Truck & Tractor Power Trains			WELD 204– Gas Metal Arc Welding Flux Core Arc Welding			
	Year 16	AGM 242– Diesel Engine Overhaul AGM 245– Diesel Engine Fuel Systems & Diagnosis			WELD 325– Design and Fabrication Processes			

