



Pathway: Power, Structural & Technical Systems

Plan of Study: Agriculture Mechanical Sciences

Career Goal (O*Net Code): Agricultural Engineers (17-2021), Welders and Cutters (51-4121.02, Welders-Fitters (51-4121.03)

Suggested High School Courses

High School	9 th	Core Academic Courses*:	English I, Algebra I or General Math, Earth Science, Geography, PE	Suggested Electives: FCS , Computers Art
		Career Path Courses:	Agriculture Education I	
* Default includes CDHE Higher Education Admission Requirements	10 th	Core Academic Courses*:	English II, Geometry, Biology, World History	Suggested Electives: Art , Computer Apps
		Career Path Courses:	Agriculture Education II	
11 th	Core Academic Courses*:	English III, US History	Suggested Electives: Accounting, Art	
	Career Path Courses:	Agriculture Tech I* or Tech II, Agriculture Business/Leadership		
12 th	Core Academic Courses*:	English Comp I/II , College Algebra or Trig, Government	Suggested Electives: Life skills, Art, Computer Apps	
	Career Path Courses:	Agriculture Tech I* or Tech II, Agriculture Business/Leadership		

Secondary to Postsecondary Linkages & Certifications

Recognition for Advanced Learning	Postsecondary Credit Options:
	Lamar Community College Welding Course*(3 credits)
Industry Recognized Certificate(s) or License(s):	

Postsecondary Education Opportunities	Postsecondary Programs Available in Colorado		Colorado Institutions	Entrance Exams/ Requirements
	Certificate	Certified Welder		Morgan Community College Trinidad State Junior College Aims Community College
Associate Degree	Welding Technology, Welding Fabrication, Surveyor, Agriculture Engineer		Trinidad State Junior College, NJC, Colorado Mountain College , MCC Aims Community College	High School diploma or GED
Bachelor Degree	Agricultural Engineer		Colorado State University , Colorado School of Mines	See each school's Admissions website.
Graduate Degree	Agricultural Engineer		Colorado School of Mines	See each school's Admissions website.

Cluster Overview: The **Agricultural, Food and Natural Resources** cluster focuses on careers in the planning, implementation, production, management, processing, and/or marketing of agricultural commodities and services.

Extended Learning Experiences		
Curricular Experiences: Colorado FFA Association Agricultural Mechanics Career Development Event Agricultural Mechanics Proficiency	Extracurricular Experiences: Farm Bureau Exchange Program Colorado Farm Show	
Work-Based Learning Experiences: Career Preparation – Paid and Unpaid Job Shadowing Internships	Program Accreditation and/or Professional Association(s): Post-Secondary Agriculture Students (PAS) American Welding Society (AWS) Association of General Contractors (AGC) American Society of Agricultural and Biological Engineers	
Service Learning Experiences: Community Service Volunteer, 4-H, Boy Scouts of America		
Career Options:		Salary Range:
Certificate	Apprentice Electrician, Remote Sensing Specialist, Apprentice Plumber, Quality Assurance Manager	\$
Associate Degree	Journeyman Plumber, Journeyman Electrician, Machinery Set-up Technician	\$\$
Bachelor Degree	Site Manager, Agricultural Engineer, Contractor, Extension Engineering Specialist, Surveyor, Project Engineer	\$\$\$-\$\$\$\$
Graduate Degree	Project Developer, Risk Management Specialist	\$\$\$\$-\$\$\$\$\$

* \$ = \$15-25,000; \$\$ = \$25-55,000; \$\$\$ = \$55-90,000; \$\$\$\$ = Above \$90,000

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