



## 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 * Default includes CDHE Higher Education Admission Requirements	9 <sup>th</sup>	Core Academic Courses*:	English I, Algebra I, General Science, State History/Civics	Suggested Electives: Insert Recommended Electives Here
		Career Path Courses:	Introduction to Agriculture Science and Technology	
	10 <sup>th</sup>	Core Academic Courses*:	English II, Geometry, Biology, US History, Foreign Language I	Suggested Electives: Insert Recommended Electives Here
		Career Path Courses:	Shop Skills	
	11 <sup>th</sup>	Core Academic Courses*:	English III, Algebra II/ or other, Chemistry	Suggested Electives: Metal Fabrication, Ag. Welding
		Career Path Courses:	Advanced Ag Mechanics *	
	12 <sup>th</sup>	Core Academic Courses*:	English IV, Trigonometry or other Math, Physics or other lab based science	Suggested Electives: Ag. Construction
		Career Path Courses:	Advanced Ag Mechanics*	

#### Secondary to Postsecondary Linkages & Certifications

Recognition for Advanced Learning	<b>Postsecondary Credit Options:</b> Dual Enrollment through LCC – 12 Credits*
	<b>Industry Recognized Certificate(s) or License(s):</b> Insert Certification Options

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	High School diploma or GED
	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		
<b>Curricular Experiences:</b> Colorado FFA Association Agricultural Mechanics Career Development Event Agricultural Mechanics Proficiency	<b>Extracurricular Experiences:</b> Farm Bureau Exchange Program Colorado Farm Show	
<b>Work-Based Learning Experiences:</b> Career Preparation – Paid and Unpaid Job Shadowing Internships	<b>Program Accreditation and/or Professional Association(s):</b> Post-Secondary Agriculture Students (PAS) American Welding Society (AWS) Association of General Contractors (AGC) American Society of Agricultural and Biological Engineers	
<b>Service Learning Experiences:</b> 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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