



## Pathway: Production

### Plan of Study: Welders & Solderers

**Career Goal (O\*Net Code):** Examples:

Precision Metal Production (51-4041), Welder (51-4121), Machine Operator (51-4081), Inspector (51-9061).

#### Suggested High School Courses

High School * Default includes CDHE Higher Education Admission Requirements	9 <sup>th</sup>	Core Academic Courses*:	English 9, World Civilizations, Intro to Geography, Algebra I, Introduction to Physical Science, Integrated Science(Honors classes also available)	Suggested Electives: Business Technology 1
		Career Path Courses:	Technology Studies; Design Projects, Beginning Woods	
	10 <sup>th</sup>	Core Academic Courses*:	English 10, US History (Electives: Anthropology, World Geography), Geometry or Algebra 11 Biology, Astronomy (Elective) Foreign Language (Honors classes also available)	Suggested Electives: Advanced Graphic Design Digital Photography Business Technology 1 Advanced Bus. Tech
		Career Path Courses:	Technology Studies, Design Projects, Beginning Woods, Advanced Woods	
	11 <sup>th</sup>	Core Academic Courses*:	English Elective (American Literature, Journalism, Creative Writing, Drama/Debate, etc.), Western Civilization or AP European History (Electives: AP Human Geography, Anthropology, Colorado History, World Religions, Film History, Intro to Law, Russian History, Sociology, World Geography, or Psychology), Algebra II, Probability and Statistics or Pre-Calculus, Chemistry, (Electives: Astronomy, Zoology, Plant Science, Genetics or Meterology)	Suggested Electives: Advanced Graphic Design Digital Photography Business Technology 1 Advanced Bus. Tech 2 Integrated Bus Tech 3
		Career Path Courses:	Technology Studies, Design Projects, Beginning Woods, Advanced Woods	
	12 <sup>th</sup>	Core Academic Courses*:	English Literature, World Literature, Government, Economics/Civics (Electives: AP Human Geography, Anthropology, Colorado History, World Religions, Film History, Intro. to Law, Russian History, Sociology, World Geography or Psychology), Trigonometry, Pre-Calculus, Probability and Statistics, Calculus or AP Statistics Physics, (Electives: Astronomy, Zoology, Plant Science, Genetics or Meterology)	Suggested Electives: Advanced Graphic Design Digital Photography Business Technology 1 Advanced Bus. Tech Integrated Bus Tech 3
		Career Path Courses:	Technology Studies, Design Projects, Beginning Woods, Advanced Woods	

#### Secondary to Postsecondary Linkages & Certifications

Recognition for Advanced Learning	<b>Postsecondary Credit Options:</b> ACP, Dual Credit, PSEO, Articulated Credit
	<b>Industry Recognized Certificate(s) or License(s):</b> American Welding Society (AWS)

Postsecondary Education Opportunities	Postsecondary Programs Available in Colorado		Colorado Institutions	Entrance Exams/ Requirements
	Certificate	Welding, Apprenticeship Sheetmetal Worker , Machining Technology, Industrial Mechanics, Industrial Technologies, Manufacturing Technology		<b>AVS:</b> Emily Griffith Opportunity School, T.H. Pickens Technical College, San Juan Basin Technical College <b>Community Colleges:</b> Aims CC, CC of Aurora, CC of Denver, Front Range CC, Pikes Peak CC, Pueblo CC, Red Rocks CC, Western Colorado CC
Associate Degree	Welding Technology, Machining Technology, Industrial Technologies		<b>Community Colleges:</b> Aims, CC of Aurora, CC of Denver, Front Range CC, Pikes Peak CC, Pueblo CC, Red Rocks CC	High School diploma/GED

Career & Technical Education is delivered through the Colorado Community College System

[www.cccs.edu](http://www.cccs.edu)



	Bachelor Degree	Civil, Electrical, Environmental & Mechanical Engineering, Industrial Engineering, Mechanical Engineering	For more information about colleges that have these programs go to <a href="http://www.CollegeinColorado.org">www.CollegeinColorado.org</a>	See each school's Admissions website.
	Graduate Degree	Engineering Management, MS; Industrial & Systems Engineering, MS; Mechanical Engineering, MS & PhD	For more information about colleges that have these programs go to <a href="http://www.CollegeinColorado.org">www.CollegeinColorado.org</a>	See each school's Admissions website.

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<p><b>Cluster Overview:</b> The <b>Manufacturing Career Cluster</b> prepares students in planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.</p>		
<b>Extended Learning Experiences</b>		
<p><b>Curricular Experiences:</b></p> <p>SkillsUSA Technology Student Association AWS – American Welding Society</p>	<p><b>Extracurricular Experiences:</b></p> <p>Examples: Odyssey of the Mind</p>	
<p><b>Work-Based Learning Experiences:</b></p> <p>Career Preparation – Paid and Unpaid, Job Shadowing, Internships, Community Employment Experience, Informational Interviews and Academic Internship (available through Advisory Committee and other business partners).</p>	<p><b>Program Accreditation and/or Professional Association(s):</b></p> <p>Examples: American Iron &amp; Steel Institute American Machine Tool Distributors Association American Society for Nondestructive Testing American Society for Testing and Materials American Welding Society Composites Fabricators Association National Association of Manufacturers National Tooling &amp; Machining Association Precision Metalforming Association</p>	
<p><b>Service Learning Experiences:</b></p> <p>Examples: Boy Scouts of America, Girl Scouts of the USA, Habitat for Humanity, Community Service Volunteer</p>		
<b>Career Options:</b>		<b>Salary Range:</b>
Certificate	<p><b>Assemblers</b> <b>MIG Welders</b> <b>Machine Operator</b> <b>Solders and Braziers</b></p>	\$\$

Associate Degree	<b>TIG Welders Precision Layout Worker</b>	<b>\$\$ - \$\$\$</b>
Bachelor Degree	<b>Calibration Technician Electromechanical Technician</b>	<b>\$\$ - \$\$\$</b>
Graduate Degree	<b>Production Managers Industrial and Manufacturing Engineers</b>	<b>\$\$ - \$\$\$\$</b>

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