



## Pathway: Maintenance, Installation & Repair

### Plan of Study: Industrial Technician

**Career Goal (O\*Net Code):** Examples: Maintenance Repairer (49-9042), Industrial Electronic Installer (49-2094), Electrician (47-2111), BioMedical Equipment Technician (49-9062).

#### Suggested High School Courses

High School	9 <sup>th</sup>	Core Academic Courses*:	English I, Algebra I, Earth or Environmental Science, State History/Civics	Suggested Electives:
		Career Path Courses:	Technical Drawing 1	
* Default includes CDHE Higher Education Admission Requirements	10 <sup>th</sup>	Core Academic Courses*:	English II, Geometry, Biology, US History, Foreign Language I	Suggested Electives: Web Design Intro to computer systems
		Career Path Courses:	Introduction to Manufacturing Occupations/Technology Occupations	
	11 <sup>th</sup>	Core Academic Courses*:	English III, Algebra II/ or other, Chemistry	Suggested Electives: Intro to business systems
		Career Path Courses:	Automotive and Welding 1-full year course	
	12 <sup>th</sup>	Core Academic Courses*:	English IV, Trigonometry or other Math, Botany or other lab based science	Suggested Electives: School to Work Program
		Career Path Courses:	Automotive and Welding 2-full year	

#### Secondary to Postsecondary Linkages & Certifications

Recognition for Advanced Learning	<b>Postsecondary Credit Options:</b> Possible Dual Credit with Trinidad State in Alamosa
	<b>Industry Recognized Certificate(s) or License(s):</b> American Welding Society (AWS)

#### Postsecondary Programs Available in Colorado

#### Colorado Institutions

#### Entrance Exams/ Requirements

Postsecondary Education Opportunities	Certificate	Welding, Apprenticeship Sheetmetal Worker, Machining Technology, Industrial Mechanics, Industrial Technologies, Manufacturing Technology, Industrial Maintenance Technologies	<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	High School diploma/GED
	Associate Degree	Welding Technology, Machining Technology, Industrial Technologies, Industrial Maintenance 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
	Bachelor Degree	Civil, Electrical, Environmental & Mechanical Engineering, Industrial Engineering, Industrial Design, Mechanical Engineering, Electrical 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; Electrical 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.

**Cluster Overview:** The **Manufacturing Career Cluster** 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.

**Extended Learning Experiences**

<p><b>Curricular Experiences:</b></p> <p>Examples: SkillsUSA Technology Student Association American Welding Society (AWS)</p>	<p><b>Extracurricular Experiences:</b></p> <p>Examples: Science Club</p>
<p><b>Work-Based Learning Experiences:</b></p> <p>Career Preparation – Paid and Unpaid, Job Shadowing, Internships</p>	<p><b>Program Accreditation and/or Professional Association(s):</b></p> <p>Examples: National Association of Manufacturers National Tooling and Machining Association Precision Metalforming Association Robotic Industries Association Society for Maintenance and Reliability Professionals</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	<b>Assemblers, Machine Operator, Welder</b>	\$\$
Associate Degree	<b>Maintenance Repairer, Industrial Electronic Installer, Electrician, BioMedical Equipment Technician, Pattern and Mold Makers, Sheet Metal Workers, Production Associates</b>	\$\$ - \$\$\$
Bachelor Degree	<b>Calibration Technician, Electromechanical Technician, Mechanical Engineer, Electrical Engineer</b>	\$\$\$
Graduate Degree	<b>Plant Manager, Mechanical Engineer, Electrical Engineer</b>	\$\$\$ - \$\$\$\$

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

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