



Pathway: Manufacturing Production DRAFT

Plan of Study: Production Manager

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 th	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 Tech 1
		Career Path Courses:	Technology Studies; Design Projects, Beginning Woods	
	10 th	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 th	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 Web Design
		Career Path Courses:	Technology Studies, Design Projects, Beginning Woods, Advanced Woods	
	12 th	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 2 Integrated Bus Tech 3 Web Design
		Career Path Courses:	Technology Studies, Design Projects, Beginning Woods, Advanced Woods	

Secondary to Postsecondary Linkages & Certifications

Recognition for Advanced Learning	Postsecondary Credit Options: ACP, Dual Credit, PSEO, Articulated Credit
	Industry Recognized Certificate(s) or License(s): Certification for Welders available through the American Welders Society (AWS) Voluntary certification is available from the American Production & Inventory Control Society (APICS).

Postsecondary Education Opportunities	Postsecondary Programs Available in Colorado		Colorado Institutions	Entrance Exams/ Requirements
	Certificate	Welding, Apprenticeship Sheet Metal Worker, Machining Technology, Industrial Mechanics, Industrial Technologies, Manufacturing Technology, Industrial Maintenance Technologies, CNC Manufacturing Management		AVS: Emily Griffith Opportunity School, T.H. Pickens Technical College, San Juan Basin Technical College Community Colleges: 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, Industrial Maintenance Technologies, CNC Manufacturing Management		Community Colleges: 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



	Bachelor Degree	Engineering Management, Industrial Engineering, Industrial Design, Mechanical Engineering, Electrical Engineering	For more information about colleges that have these programs go to www.CollegeinColorado.org	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 www.CollegeinColorado.org	See each school's Admissions website.

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<p>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.</p>	
Extended Learning Experiences	
<p>Curricular Experiences:</p> <p>SkillsUSA Technology Student Association</p>	<p>Extracurricular Experiences:</p> <p>Examples: Odyssey of the Mind</p>
<p>Work-Based Learning Experiences:</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>Program Accreditation and/or Professional Association(s):</p> <p>Examples: American Iron & Steel Institute National Association of Manufacturers National Tooling & Machining Association Precision Metalforming Association Society of Plastics Engineers</p>
<p>Service Learning Experiences:</p> <p>Examples: Boy Scouts of America, Girl Scouts of the USA, Habitat for Humanity, Community Service Volunteer</p>	
Career Options:	
Certificate	<p>Assemblers Machine Operator Welder</p>
Salary Range:	
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Associate Degree	Precision Metal Production Welder Machine Operator Precision Layout Worker Solders and Braziers	\$\$ - \$\$\$
Bachelor Degree	Calibration Technician Electromechanical Technician Inspector	\$\$\$
Graduate Degree	Production Managers Industrial and Manufacturing Engineers	\$\$\$ - \$\$\$\$

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