



METALS

TRADES

The Manufacturing Career Cluster is about using your skills to the process raw materials or parts into finished goods by using tools, human labor, machinery, and chemical processing. Manufacturing allows businesses to sell finished products at a higher cost than the value of the raw materials. Work opportunities include creating new structures, restorations, additions, alterations, and repairs.

HIGH SCHOOL COURSES OFFERED

EXPLORATORY

- Metals Crafts & Production
- Metals Manufacturing & Technology
- Manufacturing Cooperative Worksite Learning

PREPARATORY

- Small Engine Repair

WORKBASE LEARNING

Work Experience Opportunities

CTE students in many cases can pursue what is called a "work-based learning" opportunity or an internship involving a job outside of school. "Work-based learning" experiences are always paid and earn high school credit. Internships are typically paid but do not earn academic credit. Individual schools and CTE teachers work with local employers to arrange these opportunities for their students, so your local CTE or career office is the best source of information for what your own school offers.

Student Leadership Organizations

SkillsUSA is a national organization for students exploring trade, industrial, technical health and service-related careers. Areas of competition include architectural drafting, construction, carpentry computer programming, web design and nurse assisting. This organization promotes superior work skills, life-long education, leadership, teamwork, citizenship and community service among its student members. It also strives to build and reinforce self-confidence, work ethic and communication skills. More information is contained on the [Student Leadership Organizations](#).



ALIGNED TO INDUSTRY

OCCUPATIONS		MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Welders, Cutters, Solderers		\$53,900	1,170	6.4%
Sheet Metal Workers		\$66,880	590	9.2%
Machinists		\$52,940	1,140	8%
CNC Programmers		\$86,990	217	3.4%
Structural Iron & Steel Workers		\$88,910	260	9%
Metal Fabricators & Fitters		\$46,100	220	7%

POST SECONDARY OPTIONS					
High school/ Certificate	Cert/ License	Associates Degree	Bachelor's Degree	Masters/ Doctoral	Schools w/ programs
Precision Exams- OSHA 10	OSHA 30 First Aid/CPR, Pre-Apprentice Cert.	Apprenticeship, AAS-Welding Tech, AAS-Production Tech, AAS-Machining Tech			Clark, SSCC, YVCC, LWIT, Renton Tech, Perry Tech, GRCC, WVCC, OCC, YVCC, Bates Tech, LCC, Centralia CC, Clover Park CC
			BS-Material Science & Engineering	MS-Material Science & Engineering	WSU
			BS-Mechanical Engineering BS-Manufacturing Engineering		UW, WWU

Additional industry-based certification information is available from the OSPI website.



EXAMPLE COURSE PLAN • 4 YEAR COLLEGE / UNIVERSITY

Subject/Credit	HS Credit earned in MS	9 th Grade	10 th Grade	11 th Grade	12 th Grade
English/4		Pre-AP Freshman English	Pre-AP Sophomore English	AP Language	AP Literature
Math/3	Algebra	Geometry	Algebra 2	Pre-Calculus	Calculus
Social Studies/3			World History	US History	CWP Civics
Lab Science/3		AP Environmental Science	Biology	Physics	Chemistry
CTE/1			Metals Manufacturing & Tech 1&2		
PE & Health/2		Family Health Foundations of PE		Team Sports Weight Training	
Art/1		Metal Crafts & Production 1&2			
PPR or Electives/7		ASL 1	ASL 2	ASL 3	Small Engine Repair 1&2 Worksite Learning



EXAMPLE COURSE PLAN • 2 YEAR COLLEGE / TECH

Subject/Credit	HS Credit earned in MS	9 th Grade	10 th Grade	11 th Grade	12 th Grade
English/4		Freshman English	Sophomore English	Junior English	Senior English
Math/3		Algebra	Geometry	Algebra 2	Applied Math
Social Studies/3			AP World History	AP US History	AP Government
Lab Science/3		Physics	Biology	Chemistry	Engineering
CTE/1			Metals Manufac & Tech 1&2		
PE & Health/2		Family Health Foundations of PE		Team Sports Weight Training	
Art/1		Metal Crafts & Production 1&2			
PPR or Electives/7		Spanish 1	Spanish 2	Spanish 3	Small Engine Repair 1&2 Worksite Learning

NOTE: These are just two of many options for course planning. Need help; see your counselor or career specialist today.