

Area of Study: Industrial Trades and Technology Education

Career Pathway: Welding and Fabrication

Get the Facts

A welder is a skilled professional specializing in fusing materials to the Welding Procedure Specification (WPS) listed for the job at hand. Welders usually work with metals such as steel or aluminum; some work with thermoplastics or ceramics. To weld, cut, shape, braze, solder, or otherwise manipulate a workpiece, welders are well-versed at using an assortment of tools and equipment, including torches, gases, electrodes, hand tools, wire feeders, filler metals, and industrial chemicals. Certifications are available through American Welding Society (AWS) and Certified Welding Technologies (CWT) among other organizations.

Workforce Trends

With the continuous need of skilled and knowledgeable employees in the welding industry, this pathway helps provide trained and work-ready employees. With a current annual growth rate of 16.5%, demand in Montana for individuals with welding and fabrication skills continues to increase.

CAREER AND TECHNICAL EDUCATION

Recommended Pathway Courses

Students may select individual courses for exploration or a complete Pathway for an in-depth focus

CLASS AVAILABILITY MAY VARY AT YOUR SCHOOL

Course #	Foundation Courses (required)	Credit
13003	Industrial Arts	.50/1.0
13055	Metal Processing and Production	.50/1.0
13202	Metal Working	.50/1.0
13207	Welding	.50/1.0
Elective Courses		
12053	Entrepreneurship	.50
12104	Accounting	.50
13201	Metalwork Occupations	.50
13202	Metalworking	.50
13203	Machining	.50
13205	Sheet Metal	.50
13248	Metalwork—Workplace Experience	.50
21107	CAD Design and Software	.50

1.0 credit

1.0 credit

2.0 credits for completion

Foundation courses taken beyond the required credits can be used as elective credit. Additional CTE Credits are recommended for Pathway completion

Careers in Welding and Fabrication are:

- High demand, high skill, and high wage

Career Examples

- Welder
- Welding Engineer
- Assembler
- Certified Welding Inspector
- Machinist
- Quality Control Technician
- Metal Artist
- Production Manager
- Corrosion Technician
- Structural Metal Worker

According to the Montana Department of Labor and Industry, the average median hourly wage for occupations within the Welding and Fabrication Career Pathway is \$18.29.

State Graduation Requirements		Suggested High School Plan of Study				College and Career
High School <i>Administrative Rules of Montana 10.55.905</i>		9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	Beyond High School There are many options for education and training beyond high school, depending on your career goals.
English/Language Arts	4.0	English 9 1.0	English 10 1.0	English 11 1.0	English 12 1.0	
Mathematics	2.0	Math* 1.0	Math* 1.0	Math* 1.0	Math* 1.0	
Social Studies	2.0	Social Studies* .50/1.0	Social Studies* .50/1.0	U.S History 1.0	U.S. Government 1.0	
Science	2.0	Earth Science 1.0	Biology 1.0	Science Elective*		
Health Enhancement	1.0	P.E./Health* .50	P.E./Health* .50	P.E./Health Electives*		
Arts	1.0	Arts Courses* 1.0				
Career and Technical Education	1.0	Pathway Foundation Course .50/1.0	Pathway Foundation Course .50/1.0	Pathway Elective Course .50/1.0	Pathway Elective Course .50/1.0	
Work-Based Learning		Participation in a Pathway-related work-based learning experience				
Career and Technical Student Organization		SkillsUSA or TSA				
<ul style="list-style-type: none"> *Talk to your school counselor about requirements in the core curriculum. Core curriculum and elective requirements vary district to district. Many CTE courses may qualify for dual enrollment credit, which in some cases may earn up to 1.0 credit toward Pathway completion. Talk to your school counselor about availability. 		<ul style="list-style-type: none"> Dual enrollment course offerings vary by school and district. Many Montana post-secondary programs accept high school courses toward a two- and four-year degree through dual enrollment. Check with post-secondary campuses for details. 				

For more information on salary projections, labor market demand, and training options, visit lmi.mt.gov.