

Career and Technical Education
Area of Study: Industrial Trades & Technology
Career Pathway: Manufacturing

Get the Facts:

An Advanced Manufacturing

professional will offer designing and improving products, operating high-tech tools and machinery, analyzing problems and coming up with creative solutions, and working with both your hands and your mind.

Workforce Trends:

With the continuous need of skilled and knowledgeable employees in the advanced manufacturing, this pathway will help provide employees that are trained and work ready. With a current annual growth rate of 8.3%, the demand for individuals with design and construction skills continues to increase in Montana.

Careers in Manufacturing 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.

Recommended Pathway Courses:

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

Foundation Courses (required)

- Welding 1-Metalworking .50 credit
- Introduction to Technical Design .50 credit

Elective Courses

- Welding 2- Arc .50 credit
- Welding 3-Fabrication 1.0 credit
- IT Industrial Work Experience .50/1.0 credit
- Digital Fabrication 1.0 credit

College and Career Beyond High School

There are many options or education and training beyond high school, depending on your career goals.

- Certificate
- Associate degree
- Bachelor's degree
- On-the-job training
- Apprenticeship

MCPS Graduation Requirements-High School

- English/Language Arts 4.0 credits
- Mathematics 3.0 credits
- Social Studies 2.0 credits
- Science 2.0 credits
- Health Enhancement 2.0 credits
- Art 1.0 credit
- Career and Technical Education 1.0 credit

Suggested High School Plan of Study

9th Grade

- English 9 1.0 credit
- Math 1.0 credit
- Social Studies .50/1.0 credit
- Earth Science 1.0 credit
- P.E/Health 1.0 credit
- Art Courses 1.0 credit
- Art
- Welding 1

10th Grade

- English 10 1.0 credit
- Math 1.0 credit
- Social Studies .50/1.0 credit

- Biology 1.0 credit
- P.E./Health 1.0 credit
- Art
- Introduction to Technical Design

11th Grade

- English 11 1.0 credit
- Math 1.0 credit
- U.S. History 1.0 Credit
- Science Elective
- P.E./Health Electives
- Art
- Pathway Elective .50

12th Grade

- English 12 1.0 credit
- Math 1.0 credit
- U.S. Government 1.0 credit
- Science Elective
- P.E./Health Electives
- Art
- Pathway Elective .50

Work-Based Learning- Participation in a Pathway-related work-based learning experience
 Career and Technical Student Organization-Skills USA