



Bridges Career Academy

Manufacturing

Pierz-Healy High School

Understand the careers in manufacturing. Experience working with a variety of metals, while designing, welding and machining parts. Gain skills in blue print reading, tool sharpening, thread cutting and shop safety. Project based, using real-life activities. Work on both required and personal projects. Gain entry-level employment or continue education.

Academic Courses

- Welding I
- Welding II
- Small Gas Engines
- Technical Education

Career Experiences

- Listen to industry speakers
- Tour local businesses
- Attend the Bridges Career Exploration Day or other regional career fairs
- Work with real-life industry projects

Completion Standards

COMPLETE

ALL courses

GRADES **B** ↑

Earn a **certificate** and **green cord** at graduation



Job Skills

In addition to having technical skills, employers expect workers in this industry to have these skills:

- Listening skills
- Manage tools and equipment
- Use critical thinking skills
- Effectively communicate
- Time management

Explore types of careers

www.careerwise.minnstate.edu/careers

Review the local job outlook

www.careerwise.minnstate.edu/jobs

Find postsecondary programs

www.careerwise.minnstate.edu/education



Manufacturing Career Academy

Pierz-Healy High School

The Manufacturing Academy provides students with an understanding of the vast number of careers in the world of manufacturing today. Students will experience working with a variety of metals, while designing, welding and machining parts. Skills in blue print reading, tool sharpening, thread cutting and shop safety are essential elements of the courses. The academy is project based, uses real life activities and allows students to work on both required and personal projects. When completing this academy, students will have skills to enter the work force or transfer credits to higher education.

ACADEMY COURSES

Welding I, II — 4 High School Credits and/or 3 College Credits

These courses cover safety related to welding, the use of oxy-fuel welding, brazing and equipment. Students will cover the safety hazards and applications for Gas Tungsten, Arc Welding in the welding industry. Curriculum will include power source setup, current types, current selection, shielding gases and torch types. In addition, safety principles for SMAW processes, learning various wire types, flux core, metal core, aluminum and stainless steel. Math concepts relating to welding projects are essential in the courses.

Small Gas Engines — 2 High School Credits and/or 3 College Credits

Students will have the chance to dissect electrical engines, work on personal engines or systems. Trade materials will be researched to develop an understanding of gas engines used in residential and industrial environments. Alternative energy systems will be explored and tested. Students are encouraged to have projects to work on while they disassembled and assembled 2-4 cycle engines.

Technical Education — 1 High School Credit

This exploratory entry-level course is outlined to expose students to the numerous opportunities in technical education. Students will be exposed to occupational safety and practices. Skills introduced include carpentry, woodworking, metal fabrication, and computer aided drafting (CAD). Alternative energy awareness, home maintenance and the unique and diverse opportunities in career and vocational education will be discussed.

COMPLETION STANDARD

Students wishing to receive a certification must complete all courses, earning a minimum of a 'B' in all courses.

CAREER EXPERIENCES

Students will explore and research careers with industry speakers, attend Bridges Career Exploration Day and other career fairs, tour the local businesses, and work with real life industry projects.

JOB SKILLS

In addition to having technical skills, employers expect their workers to have other skills such as:

- Listening skills
- Manage tools and equipment
- Use critical thinking skills
- Effectively communicate
- Time management

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