



## **Design Career Academy Bertha-Hewitt High School**

The Design Academy provides students with an understanding of the vast number of careers in today's mechanical, architectural, engineering and commercial design industries. Students will experience working with Pro-Engineering software as they create a variety of designs from mechanical parts to dream homes. Skills in designing prototypes, mechanical plans, blue print reading, design techniques, 2D drawing, and using technical information are essential elements of the courses. When completing this academy, students will have skills to enter the work force or transfer credits to higher education.

### **Academy Courses**

#### ***CAD/Drafting***

#### ***1 High School Credit***

This course introduces students to the world of drafting and design. Students will begin by creating working drawings from standard designs then move to research and development of new product ideas and designs. Curriculum takes students through the process of drawing; a sketch, a design then a working drawing. Mechanical drafting software will be used to design existing parts and create new products. Many of the new product designs will be done in small groups to reflect the work teams in industry.

#### ***Advanced CAD/Engineering***

#### ***1 High School Credit***

In this course student will use Pro Engineer/CAD software to advance their drafting skills. Skills learned will include the importance of using both three view drawings and isometric drawings. Learning to create, alter and modify different part drawings will allow students to design more complex machine parts.

#### ***Architectural/Interior Design***

#### ***1 High School Credit***

In this course students will be introduced into the world of architectural design and well as interior design. Students will begin by creating house plans from variety of existing documents as a way of learning and understanding the reason behind specific designs. Student will design their own dream house by making a working blue print of the home's interior and exterior. The home design will be presented through power point which will include furnishings.

### **Academic Completion Standard**

Students wishing to receive a certification for this Academy must complete all the courses earning a minimum of a '80%' or better grade average.

## **Business and Industry Experiences**

Students will explore and research careers with industry speakers, attend Career Fairs, tour the local businesses, and work with real life industry projects. Highlights include touring Diamond Tool and an Engineering Company.

## **Job Skills**

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

- Team Work Skills
- Manage Software and Equipment
- Use Critical Thinking Skills
- Effectively Communicate
- Time Management

## **Careers Options**

Architectural Drafter, Civil Engineer, Aerospace Engineer, Commercial Designer, Draftsman, Design Engineer, Product Designer, Machinist, Electrical Mechanical Engineering, Electrical and electronics Drafters, Marine and Naval Architects, Tool and Mold Maker, CNC Operator, Computer Control Precision Machinist, Automation Robotics Engineer, Industrial Maintenance Mechanic, Distributed Electrical Technician, Lean Manufacturer, Industrial Systems Specialist, Nano Science Technician

## **Job Outlook**

Commercial Design Careers – 9.6% growth for Central Minnesota

## **Postsecondary Programs**

Please check at [www.mnscu.edu](http://www.mnscu.edu) for colleges that offer educational programs for this Career Academy such as;

Hennepin Technical College, Rochester Community and Technical College, Minnesota West Community and Technical College, Bemidji State University, St. Cloud University, University of Minnesota, Northland Community and Technical College, Century College, South Central College, Ridgewater College, Minnesota West Community and Technical College, Hennepin Technical College, Rochester Community and Technical College