

Examples of post secondary education pathways in Design Technology

- Bachelor of Science (B.S.) Engineering
 - Electrical Engineering
 - Mechanical Engineering
 - Automotive Engineering
- Bachelor of Science—Industrial Design
- Bachelor of Science—Architecture
- Associate of Applied Science—Product Development

Design Technology Careers

- CAD Designer
- Advanced Manufacturing Technician
- Automotive Industrial Designer
- Aerospace Industrial Designer
- Industrial Design Engineer
- Packaging Science Engineer
- Industrial Packaging Designer
- Product Development Manager
- Injection Mold Designer
- Manufacturing Sales/Service
- Small Business Entrepreneur

Design Program Focus Areas:

- Computer Aided Design (CAD)
- Technical Sketching, Measuring & Lettering
- Mechanical Design
- 3D Solid Modeling
- Projects and Fabrication
- Prototyping
- LEGO Robotics & Hydraulic Powered Robotics

Industry Software:

AutoCAD, Inventor Pro, SolidWorks, Microsoft Office Suite, MasterCAM, & others

“Design Thinking”

Design Technology offers up to 4 full years of study utilizing AutoCAD, Inventor Pro and SolidWorks software, but it doesn't end there! Research supports the notion that “design thinking” (Design-Build-Test-Improve) is an essential quality of innovators. We believe that the design process is incomplete unless it goes beyond CAD to include rich, hands-on fabrication experiences, reverse engineering, and exposure to advanced technologies. That is why the 4th year culminates in Research & Development, a project-intensive, capstone course that incorporates state-of-the-art equipment such as a Haas CNC mill, CNC lathe, 3-D printing, plasma cutter, laser cutter, welding, and more. Successful students develop a high demand skillset that includes technical competence, teamwork, critical thinking, collaboration and innovative, problem solving.

If you have any questions, please contact the

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Chippewa Valley Schools

Career Technical Education

STEM Program

**Design
Technology**



Design Technology is a CTE program of study that provides students with in depth, sequenced, educational experiences in mechanical design. Courses develop high demand, technical skills that apply academic knowledge in relevant, hands-on contexts. Successful students develop career and college readiness with valuable entry-level CAD skills, “design thinking” ability, and a solid foundation for continuing education in product design, engineering, or other related STEM opportunities.

Design Technology Courses

A possible 4-year STEM* program of study

Technical Design 1A/1B

Grades 9-12 (1 hr/yr) 1 credit

Students are introduced to methods of computer aided design (CAD), drafting, free-hand design and digital media to develop professional drawing, design and visualization skills.

Mechanical Design 1A/1B

Grades 10-12 (1 hr/yr) 1 credit



This second year course continues development of visualization skills, use of digital media, technical design, and basic design elements of dimensioning, sectioning, auxiliary projection, with the introduction of simple assembly designs. Students gain an in-depth look at the utilization of CAD and drafting related careers as future options.

Engineering Design 1A BC/1B BC

Grades 11-12 (2 hrs/yr) 2 credits

Students take an advanced look at the engineering design profession. Students apply professional design concepts, engineering problem-solving and visual graphic techniques while maintaining professional ethics and responsibility. Students are introduced to design theory of basic machine elements through the use of dies, jigs, and other industrial applications. Students will accomplish typical industry design practices including the preparation of complete production tool designs using the CAD system. Students will experience rapid prototyping technology for model design, analysis and verification of a fully defined new part. Students will build and test simple projects while maintaining personal safety in the fabrication lab.

Research & Development

(R&D) 1A BC/1B BC

Grade 12 (2 hrs/yr) 2 credits

Note: R&D is taught at Dakota HS and is available to CVHS students via district shuttle bus.

In this fourth year course, students have the opportunity to design and develop a variety of new products and mechanisms using the latest in engineering design techniques. With concept sketching and visualization as a foundation, projects will be designed, engineered, prototyped, fabricated, tested and improved for performance and durability. Students have access to advanced technologies such as a HAAS CNC lathe and mill, plasma cutter, laser cutter, and more, in the exceptionally well equipped, fabrication lab.

* STEM refers to the integration of science, technology, engineering principles, and math.



Design Technology Internship 1/2

Seniors only (1 or 2 hours)

Students must be concurrently enrolled in Engineering Design 1A/1B or Research and Development. This course provides the opportunity for senior level students to gain a “paid on-the-job” work experience in the career area of their choice. An Individual Educational Training Plan and Training Agreement are developed for each student-trainee detailing his/her specific learning activities.

Did You Know?

Design Technology classes can meet these requirements:

VPAA Credit—Students can fulfill the required 1 credit of Visual, Performing, and Applied Art (VPAA) by taking 1 credit of Design.

World Language Credit—Students may replace 1 credit of World Language with 1-credit of Design when Design is taken as a 2nd or (additional) VPAA credit.

Math-Related Credit—For seniors only, students may apply 1-credit of a Design course as a “Senior Math-Related Credit”

“Projects are what allowed me to develop my communication skills through teamwork, my persistence through failure, and my understanding of real-world problems.”