

MANUFACTURING >>>

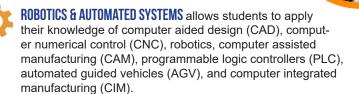
The Manufacturing cluster uses your skills in planning and organization along with your love of technology, engineering and design to work in careers processing materials into products. Careers also include related professional and technical support activities such as production planning, production design, maintenance, and engineering.

The employment of welders, cutters, solderers, and brazers is expected to grow. New power generation facilities and natural gas pipelines also are being built, which will increase the need for these professionals. More machinists and tool and die makers also will be needed in the coming years. Modern manufacturing includes all intermediate processes required for the production and integration of a product's components. Some industries, such as semiconductor and steel manufacturers, use the term fabrication instead.

HIGH SCHOOL PATHWAY CLASSES



is the introductory course for the Manufacturing Pathway. This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of manufacturing. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry.



PRODUCTION ENTERPRISES gives students an understanding of how to design and implement a production system. Students learn how businesses engage in the production of products beginning with pre-production activities and continuing through post-production activities. Additionally, students will learn about the historical and societal impact of production. Students will also develop an understanding of careers available in manufacturing and the skills and education required for those careers.

CAPSTONE: WBL INTERNSHIP

WBL (WORK-BASED LEARNING) connects skilled. knowledgeable and driven students to local businesses every year. Students who participate in the Manufacturing program and have been selected to participate in WBL will leave school early to work with our fantastic



business partners. Benefits to students include a chance to put skills learned in the classroom to use in an authentic setting, getting a competitive advantage on their career and networking with industry leading professionals all while still in high school. www.hallcowbl.org

CAREER TECH STUDENT ORGANIZATIONS



SKILLSUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. We help each student excel.

SkillsUSA's mission is to empower its members to become world-class workers, leaders and responsible American citizens. We improve the quality of our nation's future skilled workforce through the development of SkillsUSA Framework skills that include personal, workplace and technical skills grounded in academics. Our vision is to produce the most highly skilled workforce in the world, providing every member the opportunity for career success.



POTENTIAL CAREERS

- Machinists
- Layout Workers, Metal & **Plastics**
- Welder
- Technicians
- Mechanical Engineering **Technicians**
- Robotics Engineer

- Mechanical Engineers
- Industrial Engineers
- · Multiple Machine Tool Setters, Operators & Tenders
- Nuclear Power Reactor Operators
- · Patternmakers, Metal & Plastic
- Machine Operator



MANUFACTURING

CAREER PATHWAY - PLAN OF STUDY



ENGLISH/LANGUAGE ARTS

4 Units Must Include: 9th Grade Literature & American Literature

SOCIAL STUDIES

3 Units Must Include: World History, US History, Government & Economics

MATHEMATICS

4 Units Must Include:

GSE Algebra I, GSE Geometry & GSE Algebra II

one additional GSE/AP/IB/DE Math course

GSE Accelerated Algebra I/Analytic Geometry A, GSE Accelerated Geometry B/Algebra II, GSE Precalculus

one additional GSE/AP/IB/DE Math course

SCIENCE

4 Units Must Include: Physical Science or Physics; Biology;

Chemistry, Earth Systems, Environmental Science or AP/IB course

one additional Science course

HEALTH & PERSONAL FITNESS

1 Unit Must Include: 1/2 unit of each

CAREER, TECHNICAL & AGRICULTURE EDUCATION (CTAE)

3 Units Must include:

Foundations of Manufacturing & Material Science, Robotics & Automation Systems, **Production Enterprises**

ELECTIVES

4 Units

*Students planning to attend most post-secondary institutions must take 2 units of the same modern language.

TOTAL UNITS REQUIRED

23 Units

PERSONAL APTITUDES



ACTIVITIES THAT DESCRIBE WHAT I LIKE TO DO:

- · Work with my hands & learn that way.
- · Put things together.
- · Visualize objects in 3D from flat drawings.
- Apply math to work out solutions.
- Use hand & power tools and operate equipment/machinery.



PERSONAL QUALITIES THAT DESCRIBE ME:

- Practical
- Observant

Physically active

- Step-by-step thinker
- Coordinated

WANT MORE INFORMATION ON YOU?

YouScience is the science of YOU – how your mind is wired, what makes you tick, the skills and knowledge that set you apart. You have talent and there's a path that's right for you -္ကိုလ္ လို we can help you find it.

Login to Infinite Campus and locate the SLDS Portal link on the left. Once logged in, click on "My Career Plan" then choose "Go to YouScience".

WHAT YOU LEARN IN SCHOOL MATTERS

You're learning skills and knowledge that can make you a qualified candidate for in-demand careers. Industry-recognized certifications, available to all pathway students, are great signals to employers that you have the skills they're looking for. Certifications help validate what you know, so other people know, that you know it.

OUESTIONS?

POST-SECONDARY

Contact your CTAE teacher, WBL Coordinator or School Counselor

PATHWAY TO FUTURE CAREER OPTIONS



HIGH SCHOOL

Pathway Courses

WBL Internship **Dual Enrollment**

Capstone

Technical College

4 Year College/University

Certificate **Diploma Program Degree Program**

Bachelor Degree Masters Degree Graduate Studies





