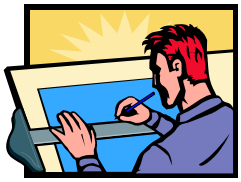

TECHNOLOGY

Intro to Engineering

This course intends to provide opportunities in the areas of design and drawing through creative thinking, decision-making and problem solving experiences. Strategies of design and drawing are emphasized. The computer is the primary tool used to do oblique drawings, three view drawings, isometric drawings, section view drawings and auxiliary views. Major units of study also include 3D design, architectural design, and tutorial design.
* This course meets graduation requirements for one unit of fine arts
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Grades:	9-12	1 unit
Prerequisite:	None	1 year

Production Systems

Production Systems is a course designed to give students an exploratory experience in the areas of residential construction, mass production manufacturing, and home owner maintenance and repairs.

As a unit in residential construction, students will design, estimate, and actually construct a small building for a sponsor from our community.

The unit in mass production will involve performing market research, prototype design and construction by assembly line techniques. The class may manufacture items and offer a limited number of items for sale.

An additional unit will involve home maintenance and repairs. Topics to be included will be: simple wiring, basic plumbing, furniture repairs, and other routine maintenance items.

Grades 9-12		1 unit
Prerequisite:	None	1 year

Introduction to Computer Science (ICS)

Designed to be the first computer science course for students who have never programmed before, ICS is a starting point for the PLTW Computer Science program. Students work in teams to create simple apps for mobile devices using MIT App Inventor®. Students explore the impact of computing in society and the application of computing across career paths and build skills and awareness in digital citizenship and cybersecurity. Students model, simulate, and analyze data about themselves and their interests. They also transfer the understanding of programming gained in App Inventor to learn introductory elements of text-based programming in Python® to create strategy games.

Grades: 8, 9		1 unit
Prerequisites:	None	1 year

Computer Science and Software Engineering (CSE)

Using Python® as a primary tool and incorporating multiple platforms and languages for computation, this course aims to develop computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. This course can be a student's first course in computer science, although we encourage students without prior computing experience to start with Introduction to Computer Science. CSE helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation. This course aligns with the AP Computer Science Principles course.

Grades: 10, 11	1 unit
Prerequisites: None	1 year

Computer Science Applications (CSA)

CSA focuses on integrating technologies across multiple platforms and networks, including the Internet. Students collaborate to produce programs that integrate mobile devices and leverage those devices for distributed collection and data processing. Students analyze, adapt, and improve each other's programs while working primarily in Java™ and other industry-standard tools. This course prepares students for the College Board's Advanced Placement Computer Science-A test.

Grades: 11, 12	1 unit
Prerequisites: CSE	1 year

Creativity & Innovation

This is an elective course in the technology sequence making students be creative and innovative. Students solve problems by generating new ideas individually and/or in groups. In the process of solving problems there are many ideas brought about by brainstorming, analytical thinking and creative thinking. Students are creative in making products by the use of design and drawing. From the drawings and plans the students actually make the product by using the tools, machines and materials in the Tech. Ed. Lab. Many of the materials used are wood, plastic, metal, glass, mortar, concrete, and electrical components. Students are innovative by adjusting or changing a product for improvement or to change the products function. Emphasis is given to hand-on learning. Safety and career information is stressed throughout the course.

Grades: 11 & 12	1 unit
Prerequisites: Production Systems	1 year