

Engineering CTE Program

Auburn High School is a Project Lead The Way (PLTW) affiliate school. All Engineering courses are taught by PLTW-certified instructors and use the PLTW course standards, objectives and learning management system.

Career Tech Student Organization: Technology Student Association (TSA) Career Readiness Indicator Credential: Autodesk Revit, Certified SolidWorks Associate

Introduction to Engineering Design - PLTW

Course Code: 21017G1000

1 Credit

Prerequisite: A grade of 70 or higher in grade level math

Course Fee: \$15

This course develops student problem-solving skills, with emphasis placed upon the concept of developing a 3-D model or solid rendering of an object. Students focus on the application of visualization processes and tools provided by modern, state-of-the-art computer hardware and software. This modern computer-based process complements the traditional hand drawing methods. The course will emphasize the design development process of a product and how a model of that product is produced, analyzed, and evaluated, using a computer-aided design system. Various design applications will be explored with a discussion of possible career opportunities.

Principles of Engineering - PLTW

Course Code: 21018G1000

1 Credit

Prerequisite: A grade of 70 or higher in Algebra II and an grade of 70 or higher in Introduction to Engineering Design

Course Fee: \$15

This introductory course is a broad-based survey course designed to help students understand the field of engineering and engineering technology and its career possibilities. Students will develop engineering problem-solving skills that are involved in post-secondary education programs and engineering careers. They will explore various engineering systems and manufacturing processes. The main purpose of this course is to experience through theory and hands-on problem-solving activities what engineering is all about and to answer the question, "Is a career in engineering or engineering technology for me?"

Civil Engineering and Architecture - PLTW

Course Code: 21021G1000

1 Credit

Prerequisite: A grade of 70 or higher in Intro. to Engineering and Principles of Engineering

Course Fee: \$15

A high school level specialization course in the PLTW Engineering Program. In CEA students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Students will develop skills in engineering calculations, technical representation and documentation of design solutions according to accepted technical standards, and use of current 3D architectural design and modeling software to represent and communicate solutions.

Aerospace Engineering - PLTW

Course Code: 21019G1000

1 Credit

Prerequisite: A grade of 70 or higher in Intro. to Engineering and Principles of Engineering

Course Fee: \$15

Students explore the physics of flight and bring what they're learning to life through hands-on projects like designing a glider and creating a program for an autonomous space rover. Using 3-D design software, students will collaborate on engineering design problems related to the aerospace industry and encountered by aerospace engineers.

Robotics Systems (Competition Robotics)

Course Code: 21009G1000

1 Credit

TSA membership and Student Application and Interview Required

Course Fee: \$100

This one-credit course is designed to provide students with the fundamental knowledge and skills of robotics. Emphasis is placed on the fundamentals of electrical current, digital circuits, electronic control systems, and the design and operation of robotic systems. This course requires an accepted application and full participation in the competitive robotics team at Auburn High. **Applications must be completed online Robotics Application - <https://forms.office.com/r/h3e49fTtC8>**

