Engineering CTE

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	
Course Code: 21017G1000	1 Credit
Prerequisite: Average of 75 or better in math or completed Automation and Robotics with average of 75 or better	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 discussion of possible career opportunities.	

Principles of Engineering	
Course Code: 21018G1000	1 Credit
Prerequisite: Required 70 average in Geometry or Algebra I	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. They will also learn how engineers address concerns about the social and political consequences of technological change. 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 questions, “Is a career in engineering or engineering technology for me?”	

Civil Engineering and Architecture	
Course Code: 21021G1000	1 Credit
Prerequisite: Average of 75 or better 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 skill 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	
Course Code: 21019G1000	1 Credit
Prerequisite: Average of 75 or better 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.	

Introduction to Robotics	
Course Code: 21009G1001	1 Credit
TSA membership and Student Application Required	Course Fee: $50
This one-credit course is designed to provide students with the fundamental knowledge and skills of robotics. Emphasis is placed on 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 can be picked up from robotics coach at AJHS or Mrs. S. Sharman at AHS. Robotics Application - https://forms.office.com/r/7uud1vempa	