

# Career & Technical Education (CTE)

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## **ENGINEERING ESSENTIALS - Project Lead The Way (PLTW)**

**Grades:** 9-12

**Credits:** 0.5 or 1.0 Arts/CTE/2nd Language

**Repeat for Credit:** No

**Prerequisite:** None

Learn how you can improve the world with Engineering Essentials! Explore how engineers make a difference by using modern engineering tools. Explore mechatronics, circuitry, 3-D modeling software, and more. Work on your own and as part of a team to develop solutions to community and global challenges that the next generation of engineers will face.

## **INTRODUCTION TO ENGINEERING - Project Lead the Way (PLTW) 3D PRINTING AND DESIGN**

**Grades:** 10-12

**Credits:** 1.0 Arts/CTE/2nd Language/Science Elective

**Repeat for Credit:** No

**Prerequisite:** Computer Skills

Students dig deep into the engineering design process, applying math, science and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software, 3D printers, CNC and laser cutters, while using an engineering notebook to document their work.

## **PRINCIPLES OF ENGINEERING - Project Lead The Way (PLTW)**

**Grades:** 11-12

**Credits:** 1.0 Arts/CTE/2nd Language

**Repeat for Credit:** No

**Prerequisite:** None

Students explore a broad range of engineering topics including simple machines, statics, mechanisms, strength of structure and materials, and automation, and then they apply what they know to take on challenges like designing a self-powered car.