



# ENGINEERING COURSE OFFERINGS

A CTE Pathway at South High School



A CTE pathway is a series of classes built to teach **career specific skills**. They provide students with experience and certifications to connect high school classes to college and industry expertise. Students receive in-depth, **hands-on project based learning** focused on various aspects of industry



## INDUSTRY SECTOR

### Engineering & Architecture

## PATHWAY

### Engineering Design

*Engineering pathway completion requires taking at least  
1 concentrator course & 1 capstone course*

### CONCENTRATOR

#### Introduction to Engineering (IED)<sup>d</sup>

Learn the basics of the engineering process & introduction to the CAD programs

#### Principles of Engineering (POE)<sup>d</sup>

Continue engineering with 3D modeling, robotics introduction & physics applications

#### Aerospace Engineering (AE)<sup>d</sup>

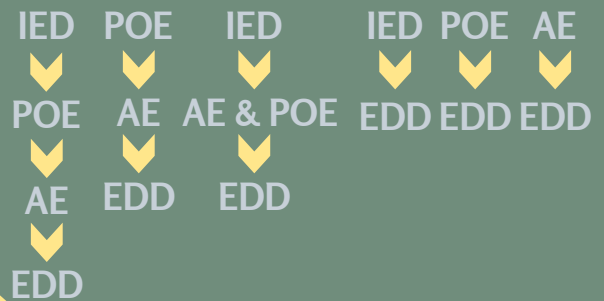
Explore flight dynamics, orbit mechanics & aerospace applications of engineering

### CAPSTONE

#### PLTW Engineering Design & Development (EDD)<sup>g</sup>

Bringing the entire engineering process to life by developing an open-ended research project. Working in teams students identify a problem, create a prototype solution, test and present their solutions. This is a **senior course only**.

### In What Order Do I Take These Classes?



**ALL PATHWAY COMPLETIONS  
WILL RECEIVE RECOGNITION  
AT SPARTAN LAURELS**

**PLTW | Engineering**

All PLTW Students who complete 3 or more PLTW Courses with a "B" or higher will receive a medallion to wear at graduation.

### What are the Benefits of These Classes?

#### COLLEGE & CAREER READY

Gets students prepared for real world applications

#### INDUSTRY EXPERIENCE

Students earn knowledge in communication, problem solving, critical thinking etc. With experience in CAD Design, 3D Modeling & Printing, flight simulators students will gain insight into Internships, job expertise, job qualifications, and resume builders.

#### COLLEGE CREDIT

IED, POE, AE & EDD allow you to receive college credit with El Camino College upon course completion.

#### AP & HONORS CREDIT

EDD is an Honors course. This is reflected on your transcript.



Almost 4 in 5 college students who are pursuing a STEM-related degree say they decided to go into their field in high school or earlier



STEM degree holders enjoy higher earnings, regardless of whether they work in STEM or non-STEM occupations



Careers in Science & Engineering are expected to grow at more than double the projected growth rate of all other U.S. jobs