

Course: Honors Principles of Engineering 1,2		Course # 8847
Credits: 1 credit each semester, 2 credits total for the year	Commitment: Two Semester course	Grade: 10-11
A-G Category: meets “D” requirement OR “G”	Estimated Homework Time: None	
Level of Difficulty:	Moderate ☒ Difficult Very Difficult	
Recommended Prerequisite: Recommended successful completion of Intro to Design.		

Note: This is a Pathway course which requires a two-year commitment. Signing up for this course commits you to taking the next course the following year. ([more information](#))

Course Description:

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and robotics. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. Students will see first hand how engineering can benefit mankind as well as social and political consequences of technological change. Instruction covers civil, electrical, environmental, mechanical, and robotic engineering. Students will learn to program in the “C” and “RobotC” languages. Students use equipment that includes computers, 3D Printers, measuring instruments, and robotics equipment.

This course fulfills the D lab science requirement for the college entrance requirements in the UC A-G.

Students may earn 1 unit of community college credit.

Recommended Skills:

Student should have a strong drive to be technically creative. Student should have strong algebra skills. No previous experience in programming or robotics is necessary.

Syllabus link: [Honors Principles of Engineering Syllabus](#)