

## Principles of Engineering

This course designed for sophomores exposes students to the major concepts they will encounter in a college engineering course. Developing problem solving skills and apply the knowledge of research and design solutions to various challenges, documenting their work.

### Student Portfolios:

Resume, and letters of recommendation, and examples of their work.

### Design:

Computer modeling: Designing, Drawing, and Printing in 3D

Laser Designing and Cutting

Design projects using Fluid Systems using Pneumatics, Electrical Systems, Mechanical Systems and Control Systems.

### Mechanical and Electrical Systems:

How to Wire a Wall in a Residential Home:

Circuit Breaker Box, Receptacles, light switches, and installing a light.

Designing, Building, and Soldering Circuit Boards

### Robotics:

Build and Program Robots

Design, Build, and Fly Underwater Robots