

Mechanical Engineering



Program Highlights

- Discover the vital role that cranes play in engineering applications with their power to move massive materials in all directions.
- Understand the stability conditions of the crane, determine the center of mass and pinpoint the moment of inertia.
- Identify multiple types of cranes, and implement the standard steps of the design and manufacturing process.
- Design and build a functioning crane, and compete to see which crane can lift the maximum weight.

Campus Locations

Cal Poly

- June 28-July 10, 2020
- July 12-July 24, 2020

Academic Course Overview

Cranes are machines that play a vital role in the various engineering applications and construction industry because they have enough power to move materials of various weights upward, downward and horizontally. Come explore mechanical engineering through the use of cranes at the Summer Springboard program at Cal Poly.

In this workshop, the students study and know the different types of cranes, how to get the center of gravity of the crane, the moment of inertia and the stability conditions of the crane. Each group of students will design and build a crane with maximum dimensions using coffee stirrer sticks, two small DC motors, small pulleys, string, small wax gun, etc.

Mechanical engineering is the largest department at Cal Poly with more than 1,250 undergraduates and is ranked as the second-best undergraduate focused mechanical engineering program in the country by U.S. News and World Reports. The state-of-the-art laboratories and machine shops are integral parts of our curriculum and give students unique Learn by Doing opportunities to become successful and resourceful professionals in their fields.

Career Exploration

Mechanical engineering is an exciting field, offering jobs in almost every industry. Some of the top industries hiring mechanical engineers today include engineering services, R&D and manufacturing. This hands-on course will provide exposure to mechanical engineers who can share their personal academic and career paths.

Instructor - Ashraf Elbarbary

Courses at Cal Poly are taught by accomplished and passionate faculty directly from the university. Each faculty member is selected for their subject area expertise and proven ability to both challenge and captivate students.

Tuition

- **Residential Students:** \$4,998
 - Includes: all meals, lodging, excursions, academic program, weekend excursions
 - Excludes: optional airport pickup and drop off service (available for an additional fee)

- **Commuter Students:** \$2,798
 - Includes: academic program, excursions, programming from 9am to 5pm, Monday-Friday
 - Excludes: lodging, breakfast, dinner, weekend excursions

- **Extended Commuter Students:** \$3,398
 - Includes: lunch, dinner, excursions, academic program, programming from 9am to 8pm, weekend excursions
 - Excludes: lodging, breakfast