



# Chem & Bio Engineering

**Chemical and biological engineers harness organic and inorganic forms of matter to improve the world.** Whether it's optimizing the composition of a substance or developing new products that are stronger and more reliable, chemical and biological engineers develop exciting new technologies for a variety of industries, including energy, agriculture, and environmental science.

## Where do Chemical & Biological Engineers Work?

Chemical and biological engineers work in a variety of organizations, including:

- National research labs
- Pharmaceutical companies
- Industrial manufacturing
- Food engineering research

## Explore Our Chemical & Biological Curriculum

### Grades 3-5:

Acid Attack

Stretching to Compare Properties: The Plastic Test

Acid Rain Effects

### Grades 6-8:

Red Cabbage Chemistry

Chromatography Lab

Edible Algae Models

### Grades 9-12:

Bio-Engineering: Making and Testing Model Proteins

Bridging to Polymers: Thermoset Lab

Creepy Silly Putty

## Chemical & biological engineering spans many disciplines, but is generally broken into a few subfields:

chemistry, chemical processes, petrochemical engineering, nanotechnology, plastics, materials engineering biology, biochemical engineering, environmental health engineering, bioinformatics

## What do Chemical & Biological Engineers Study?

Chemical and biological engineers work to solve challenges involving chemical, biological, and physical phenomena. Areas of academic study include a range of natural sciences and systems, such as human physiology, plant biology, environmental science, organic and physical chemistry, depending on the topic of focus, and a focus on key engineering concepts such as mass balances, properties of materials, computer modeling and product design.