

# UCLA

## Student Learning Outcomes for the B.S. in Chemical Engineering

The Chemical Engineering major is a designated capstone major. The capstone project requires students to work individually and learn how to integrate chemical engineering fundamentals taught in prior required courses; then they work in groups to produce a paper design of a realistic chemical process using appropriate software tools. Graduates should be able to:

- apply knowledge of mathematics, physics, chemistry, biology, and chemical and biological engineering, especially for the integration of molecular- to micro-scale information into macro-scale analysis and design of chemical and biochemical processes and products.
- design a chemical or biological system, component, or process that meets technical and economical design objectives with consideration of environmental, social, and ethical issues, as well as sustainable development goals.
- function on multi-disciplinary teams.
- identify, formulate, and solve complex chemical and biological engineering problems.
- communicate effectively, both orally and in writing.