

# UCLA

## Student Learning Outcomes for the B.S. in Chemistry

The knowledge learned by graduates with a B.S. major in Chemistry will enable them to:

- demonstrate a broad mastery of fundamental chemical knowledge in the five foundation areas of the discipline (analytical, inorganic chemistry, organic chemistry, physical chemistry, biochemistry).
- demonstrate in-depth problem solving, critical thinking, and analytical reasoning in three of the foundation areas.
- use computers in data acquisition and processing; use software tools for exploration and investigation of chemistry principles and models.
- investigate new areas of research.
- understand the role of chemistry in addressing contemporary societal and global issues.

The skills learned by graduates with a B.S. major in Chemistry will enable them to:

- perform basic laboratory procedures and techniques in at least four of the foundation areas involving the synthesis of molecules, and the measurement of chemical properties, structures and phenomena.
- describe the theory and know how to operate modern chemical instrumentation such as FT-IR, FT-NMR, UV-visible spectroscopy, GC, GC-MS, and electrochemical instruments.
- conduct experimental work and handle all chemicals in a safe manner following OSHA-approved regulations and procedures.
- work effectively in groups and teams of diverse peers to solve scientific problems.
- communicate chemical knowledge and experimental results through written reports and oral presentations.
- use chemical information resources to search and access current and prior research, and chemical and safety databases.