UCLA Educational Goals for General Education Offerings:

- General Knowledge
- Integrative Learning (Interdisciplinarity)
- Ethical Implications
- Cultural Diversity
- Intellectual Skills
    - Critical Thinking
    - Rhetorical Effectiveness
    - Problem-Solving
    - Library and Information Literacy

UCLA General Education Areas of Inquiry:

Arts and Humanities (for which learning objectives are being drafted)

Scientific Inquiry (learning objectives listed below)

Society and Culture (for which learning objectives will be drafted)

An indirect assessment of the following learning outcomes for this area was performed for its last program review self-study, highlighting the following outcomes: Critical Thinking • Writing • Oral Communication • Problem-Solving Skills • Ability to Use and Evaluate Different Kinds of Traditional and Digital Information.

General Education Foundations in Scientific Inquiry Goals and Student Learning Outcomes for all "GE FSI" courses:

1. Students will acquire an informed appreciation towards scientists, scientific research and technology.
    a. Students will value their academic experiences in a science course that is outside their primary field of study.
    b. Students will recognize the benefits of science to society or their everyday life.
    c. Students will express interest in contributing to the sciences (e.g., engaging in research or scientific discourse with others).
    d. Non-science students will see scientists as role models, helping them to identify as scientists themselves.
2. Students will experience the interdisciplinary nature of science.
    a. Students will investigate topics from a variety of scientific fields.
    b. Students will explore the perspectives of multiple diverse scientists.
    c. Students will be able to make logical connections between key concepts from multiple scientific disciplines.
3. Students will develop information literacy.
    a. Students will be mindful of information they encounter, recognizing contexts or situations when it is necessary to seek out other sources or data.
    b. Students will be able to identify, locate, and critically evaluate information sources and datasets to ensure they are reliable, validated, accurate, and scholarly (i.e. associated with citations in peer-reviewed, public research studies).
    c. Students will be able to explain the peer-review process in science and its role in critical evaluation and validation of published, scientific findings.
4. Students will actively engage in the scientific process of inquiry, analysis, problem-solving, and quantitative reasoning.

    a. Students will explain how scientists answer scientific questions, test a hypothesis, or solve a problem.
    b. Students will make reasonable predictions of experimental outcomes based on observation, measurements, and/or prior knowledge surmised from the scientific literature or other reliable, validated, accurate information sources.
    c. Students are able to break down, reason through, and solve complex quantitative problem sets.
    d. Students are comfortable working with numerical data.
    e. Students are able to estimate and complete calculations to solve a quantitative problem.
    f. Students will recognize different objects and apply units of measurement at relevant scales (quantity, size, time) and orders of magnitude.
5. Students will be able to make evidence-based decisions in a wide array of science and non-science contexts.
    a. Students will be able to distinguish between opinion and fact (i.e. data-supported conclusion).
    b. Students will use reliable, validated, accurate and scholarly information sources and datasets before accepting or formulating a conclusion.
    c. Students will draw conclusions or make judgements about experimental results informed by critical thinking, that is, a comprehensive exploration of ideas and systematic engagement with the scientific process.
6. Students will develop scientific literacy by addressing current, critical issues and topics in science that are personally meaningful in daily life and/or connected to the needs of society (e.g., climate change, vaccination, GMOs, evolution).
    a. Students will be able to clearly state the significance or relevance of a research question or problem (i.e. state why scientists are motivated to study the issue or topic).
    b. Students will be able to discuss societal impacts by citing examples of the ways in which scientists and scientific research contribute to society.

    c. Students will be able to describe the interactions between humans and their physical world and the positive and negative effects of this interaction.
    d. Students will be able to explain why issues perceived as "controversial" in the public domain are not considered "controversial" in among scientists.
7. Students will understand fundamental scientific principles and crosscutting concepts.
    a. Students will be able to describe the nature, organization, and evolution of living systems.
    b. Students will be able to describe the origin and physical processes of the planet earth and the surrounding universe.
    c. Students will differentiate between a scientific theory, hypothesis, fact, or law.