GE Course Self-Review

Area 5A Physical Science

Please use this form to evaluate whether your course follows all GE course requirements, and modify your course to incorporate missing elements.

**GE course:** Click or tap here to enter text.

# GE Syllabus Requirements

Please check that your syllabus meets each of these requirements:

Your syllabus states that the course satisfies GE Area 5A.

Your syllabus lists prerequisites and corequisites, if any.

Your syllabus states that the writing in the course meets the GE writing requirement.

Your syllabus clearly explains how the GE writing requirement will be met.

Your syllabus clearly explains how the GE writing requirement will be assessed.

Your syllabus includes the following required grading statement: “A grade of D (1.0) or higher is required to meet this General Education requirement. A grade of D- (0.7) or below will not satisfy this General Education Requirement.”

Your syllabus includes the following link to the student information for course syllabi website: <https://fdc.fullerton.edu/teaching/student-info-syllabi.html>.

# Writing Requirements

Please check that your course meets each of these requirements. Writing in a corequisite laboratory course may be used to satisfy the General Education writing requirement.

Your course includes student writing appropriate to the course.

The writing in your course involves the organization and expression of complex data or ideas.

The instructor provides careful and timely evaluations of writing so that deficiencies are identified and suggestions are offered for improvement on subsequent writing in the course.

Evaluation of the students’ writing competence is used in determining the final course grade.

# Student Learning Objectives Requirements

Your GE course is required to meet a preponderance of the GE student learning objectives for Area 5A from UPS 411.201. Please rate how well and explain how each of the objectives below is addressed and assessed in your course. For the rating, use the following scale:

0 - no indication that the course meets the objective

1 - weak indication that the course meets the objective

2 - satisfactory evidence that the objective is met (mostly or entirely)

3 - strong evidence that the objective is met (mostly or entirely)

## Shared Learning Objectives

Students taking courses in Areas 5A, 5B, and 5C shall

◻ a. Understand the nature of scientific inquiry and the unique way that the natural sciences and mathematics describe the universe.  
Click or tap here to enter text.

◻ b. Evaluate the validity and limitations of theories and scientific claims in interpreting experimental results.  
Click or tap here to enter text.

◻ c. Understand the dynamic and evolving nature of the sciences.  
Click or tap here to enter text.

◻ d. Recognize the importance of scientific paradigms and methods in understanding scientific concepts.  
Click or tap here to enter text.

◻ e. Use quantitative techniques and scientific reasoning to investigate problems and phenomena in the natural universe.  
Click or tap here to enter text.

◻ f. Understand the potential limits of scientific endeavors and the value systems and ethics associated with human inquiry.  
Click or tap here to enter text.

◻ g. Understand different types of uncertainty and its impact on scientific methodology and reasoning.  
Click or tap here to enter text.

◻ h. Analyze and manipulate graphical representations of data.  
Click or tap here to enter text.

◻ i. Formulate and evaluate hypotheses using quantitative techniques.  
Click or tap here to enter text.

◻ j. Use statistical techniques to evaluate uncertainty in experimental data.  
Click or tap here to enter text.

## Area 5A Learning Objectives

Students taking courses in Area 5A shall obtain a foundational understanding of either the nature of matter and energy, or Earth as a planet and its relation to the universe.

Students taking courses focusing on the nature of matter and energy shall

◻ a. Understand that energy exists in many forms, and that in any process, energy changes form and/or place, but the total amount of energy remains the same.  
Click or tap here to enter text.

◻ b. Recognize that objects interact with one another by exerting forces, and that unbalanced forces acting on an object cause change in the motion of the object.  
Click or tap here to enter text.

◻ c. Understand that all matter has observable properties that depend on the conditions and scale at which we look. Investigations of matter at the atomic and subatomic levels explain the properties, reactions, and interactions of matter.  
Click or tap here to enter text.

Students taking courses focusing on the Earth as a planet and its relation to the universe shall

◻ a. Apply basic principles of the physical and life sciences to understand earth and astronomical systems.  
Click or tap here to enter text.

◻ b. Understand that earth materials and structures are organized in interacting systems and that the Earth itself is part of a planetary system.  
Click or tap here to enter text.

◻ c. Understand that the Earth changes continuously, and is part of a universe that itself is changing.  
Click or tap here to enter text.

◻ d. Recognize that energy and matter flow and cycle through earth and astronomical systems, of which human society is an integral part.  
Click or tap here to enter text.

◻ e. Understand that changes within an earth or astronomical system may affect other earth or astronomical systems. Humans are part of and may affect or be affected by these systems.  
Click or tap here to enter text.

◻ f. Understand that earth and astronomical systems have interacted and evolved over billions of years encompassing the lifetime of planet Earth, the solar system, and the universe.  
Click or tap here to enter text.