

**GENERAL EDUCATION NEW COURSE CERTIFICATION REQUEST**  
**• AREA B1/B3: Physical Science with a Lab Component**

*Complete your responses in the corresponding fields in the **GE B1/B3 with Lab Curriculog form***

(GE forms are listed under the “**Courses**” tab in Curriculog)

**Part A: B/B3 Physical Science with Lab General Education Learning Outcomes (GELOs) related to course content.**

**Physical Science w/ Lab GELOs this course will address:**

B1.1 Students will explain accepted modern physical or chemical principles and theories, their areas of application, and their limitations.

B1.2 Students will apply the discipline’s customary methods to solve problems through data collection, critical evaluation of evidence, the application of quantitatively rich models, and /or employment of mathematical and computer analysis.

B1.3 Students will be able to articulate what makes a good scientific theory, incorporating values of parsimony, agreement with experimental or observational evidence, and coherence with other mathematical or physical theories.

B1.4 Students will be able to identify areas in which ethics either (1) directs or limits physical science research or (2) is informed by the products of this research.

B3.1 Students will demonstrate that they can conduct experiments, make observations, or run simulations using protocols and methods common in the scientific discipline in which the course is offered.

B3.2 Students will be able to interpret the results of experiments, observations or simulations, understanding random and systematic errors associated with those activities, and making appropriate conclusions based on theories or models of the scientific discipline in which the course is offered.

**Part B: General Education Learning Outcomes required of all GE courses related to course content:  
GE Outcomes required of all Courses**

Students will communicate effectively in writing to various audiences. (writing)

Students will think critically and analytically about an issue, idea or problem. (critical thinking)

Students will find, evaluate and use information appropriate to the course and discipline. (Faculty are strongly encouraged to collaborate with their library faculty.)

**Part C: GE Programmatic Goals: The GE program aligns with CSUSM specific and LEAP Goals. All B1/B3 courses must meet at least one of the LEAP Goals.**

**GE Programmatic Goals**

LEAP 1: Knowledge of Human Cultures and the Physical and Natural World.

LEAP 2: Intellectual and Practical Skills

LEAP 3: Personal and Social Responsibility

LEAP 4: Integrative Learning

**CSUSM Specific Programmatic Goals**

CSUSM 1: Exposure to and critical thinking about issues of diversity.

CSUSM 2: Exposure to and critical thinking about the interrelatedness of peoples in local, national, and global contexts.

***Part D: Course requirements to be met by the instructor.***

Course meets the All-University Writing requirement: A minimum of 2500 words of writing shall be required in 3+ unit courses.

Courses shall include an evaluation of written work which assesses both content and writing proficiency, using a writing style and use of language that is appropriate for the sciences.

Courses should demonstrate to students that the applications of physical science principles and theories can lead to lifelong learning in science and to productive and satisfying life choices.

Courses should demonstrate to students the ways in which science influences and is influenced by societies in both the past and the present.

Courses should empower students to communicate effectively to others about scientific principles and their application to real-world problems.

Courses shall build the students' information literacy in a way that is appropriate to the field and level of the course.

Courses shall require students to think critically so that they are able to distinguish scientific arguments from pseudo-scientific myths or opinions.