

**Physics Bachelor of Science and Bachelor of Arts
Assessment Report 2022-2023**

I. SUMMARY OF ASSESSMENT

A. Program Learning Outcomes (PLO)

The CSUEB Institutional Learning Outcome (ILO) numbers referred to above correspond to the following:

- (1) **Thinking and Reasoning:** think critically and creatively and apply analytical and quantitative reasoning to address complex challenges and everyday problems.
- (2) **Communication:** communicate ideas, perspectives, and values clearly and persuasively while listening openly to others.
- (3) **Diversity:** apply knowledge of diversity and multicultural competencies to promote equity and social justice in our communities.
- (4) **Collaboration:** work collaboratively and respectfully as members and leaders of diverse teams and communities.
- (5) **Sustainability:** act responsibly and sustainably at local, national, and global levels.

B. Summary of Assessment Process

Instrument(s):

We utilize standardized tests (Force Concept Inventory (FCI), Brief Electricity and Magnetism Assessment (BEMA) and an ETS (Educational Testing Service) Major Field Tests Physics Exam) to assess PLOs 1 and 2. These exams have multiple choice questions on introductory and advanced physics concepts, and are accepted as standard measures of content within the physics field. For example, the

D. Assessment Plan for 2023/2024 Academic Year:

The department 5-year assessment plan lists PLO2 as the focus of assessment in the 2023-2024 academic year. This will be assessed in Analytic Mechanics (Physics 330). This is described in the table below.

Additionally, as part of the university-wide assessment program in the 2023-2024 academic year, the physics department's advanced lab course, Physics 480, will be used to assess the Written Communication ILO for the College of Science. This will also be helpful for department assessment because the department's Communication PLO was not assessed during the pandemic. The students' final lab reports will be used for the assessment. The CSUEB Revised ILO Written Communication Rubric, Approved by Academic Senate 10-11-22, will be shared