University Assessment Committee
Outcomes Assessment Summary Form

This form is to be completed by a representative from each designated program/department. The information provided in this form will be used by the University of San Diego to inform stakeholder groups about USD’s commitment to the intellectual, spiritual, and overall development of students. A Pdf version of this form will be posted on the University’s Student Outcomes Website in the Evidence of Student Learning section.

Program Information
Program Name (e.g. BA Computer Science, PhD Nursing)

BA Biophysics

College/School Name (e.g. CAS, KSPS, SB, SMSOE)

CAS

Assessment Overview
Briefly share how student learning outcomes assessment is conducted within your program/department (e.g. number of outcomes, examples of assignments used, and frequency of assessment). See example below.

The biophysics program assesses five learning outcomes on a three-year cycle. The outcomes assess our students’ proficiency in the fundamentals of physics and biophysics, both conceptual and problem solving, in the application of these fundamentals to describe the natural world, in laboratory and data analysis skills, and in scientific communication. As a means of assessment, the program will look to utilize students’ work-product from the advanced laboratory course, presentations made in the senior seminar, as well as longitudinal studies (throughout the major) of their conceptual and problem solving abilities.

Results and Actions Taken
Assessment Cycle

2017-2018 ▼

Briefly summarize your assessment results and how you are using these results to enhance student learning and improve program quality. See example below.

In the 2017-18 academic year, the biophysics program assessed students’ abilities to apply their experience in biophysics (an interdisciplinary endeavor involving physics, chemistry and biology) to new biophysical situations in the advanced biophysics lab. Admittedly, this is the most advanced of the outcomes in the biophysics major as it requires students to process information from a wide array of classes and apply this understanding to novel situations. There remains work to be done to develop biophysics students’ skills to better address this outcome. We noted that there are structural issues that students in the assessed lab faced, for example, half the students had not taken the advanced biophysics course (Physics 340) and half the students had not completed the lower division physics sequence prior to taking the advanced biophysics lab. We have addressed this issue by scheduling the lower-to-upper division bridge course (Physics 272 and lab) every semester so that biophysics majors, who often switch into the major later in their college career, can remain on track and complete these lower division experiences before taking the advanced lab. In addition, we have revamped our curriculum to introduce a wide variety of useful laboratory experiences in the lower division lab (Physics 272L), a projects-based Introduction to Optics (Physics 281) and an emphasis on research skills in Research Forum (Physics 400).