

All Fields

CA Biomanufacturing PLO aggregates F 21

Main

Program Aggregate of PLOs

Assessment Information

Assessment Report Title CA Biomanufacturing PLO aggregates F 21

Originator Blackie, Leslie

Semester Assessed Fall 2021

Select Program Biomanufacturing (Active)

Contributor

Bruce, Doug

Program Assessments

Section Aggregate Included in this Assessment

CA Biomfg PLO 3 Rel Everyday Su 21

CA Biomanufacturing PLO 1 Equipment F 21

Participation

Participation Aggregate (Read only)

How many sections were offered: 0

How many sections participated in the assessment: 0

Summarize faculty participation in collecting data and discussing results. If more meaningful participation is necessary, discuss how you will increase this for next time.

- Students are observed while performing/demonstrating a skill with equipment in lab.
- One faculty member taught 4 sections (MW afternoon/evening) and TTH (morning/afternoon) sections. As microbiology program expands additional sections will be taught by other professors and the SLO assessment coordinated

Summarize faculty participation in collecting data and discussing results. If more meaningful participation is necessary, discuss how you will increase this for next time.

All members of the Biomanufacturing Faculty participated in collecting SLO data in the sections of the classes they taught. All of the Biomanufacturing classes are assessed and those assessments contribute to the Program Level Outcomes for the Associates of Science in Biomanufacturing Production . Faculty teaching different sections of the same class discuss their SLOs. Faculty teaching different classes that contribute to a given PLO also have discussions on whether students are meeting criteria and in what ways better support can be developed to assist students in meeting their educational objectives.

Assessment Methods / Tools

Please note this area is read only.

Assessment Results

- CA Biomfg PLO 3 Rel Everyday Su 21

- Biol 3 (microbiology) explain the importance of microbes in everyday life students were able to connect scientific concepts to everyday life although the action plan to increase supports in the class during discussions and practice quizzes has not yet been added to the class. Biol 76 (principles of biomanufacturing) the essay has been changed from working on a trade publication to exploration of career paths in the biomanufacturing field with emphasis on developing more guidelines for writing summary analysis paper and developing navigating group dynamic skills with use of technology and addition of online conferencing
- CA Biomanufacturing PLO 1 Equipment F 21
 - Skill demonstrations of pipetting and gel loading were assessed in Bio 75 Fall 2019 (section aggregate SLO 1 F19) and in Fall 2016 (sec aggregate Sp 19 skill demo). Similar results occur in multiple sections - both skills require practice to measure accurately (correctly using the "stops" on the micropipettor to prevent measuring errors) and loading slowly and accurately without puncturing the gel wells or having contamination into neighboring wells. Students with practice throughout the semester attain these skills and meet the criteria. Microbiology use of microscopes was not assessed during this cycle but will be in future assessment cycles.

Additional Comments

PLO 1 assesses laboratory equipment use, PLO 2 communication and PLO 3 Science concepts as they relate to every day situations. Overall students met the criteria for all of the SLOs and the PLOs. The individual classes all contribute to the overall goals and training of the Biomanufacturing program. The assessment results are found in both the PLO 1 and PLO 3 for the CA in Biomanufacturing (Active) and PLO 2 in Biomanufacturing (historical) in meta.

Reflection

Review previous action plan below, along with previous and current assessment results.

CA Biomfg PLO 3 Rel Everyday Su 21

The action plan of introducing support use of technology with google docs and forms of communication through the learning management system of Canvas will be implemented as faculty continue to revise and improve the classes. Students may need support in access to the technology through acquiring Chromebooks or other devices, but those loaner/support programs should be college based and not out of the departmental budget. In addition continued coordination of instruction and discussion with the faculty of all the courses contributing to the SLOs that map to the specific PLO of scientific relevance to everyday life may result in additional assignments to improve the student educational experience.

CA Biomanufacturing PLO 1 Equipment F 21

Continue to work with students on the basic skills of pipetting, gel loading and microscopes. Due to the pandemic, students were able to work at home to learn these skills, but it was difficult to assess (since they were at home) and time will be needed in future classes of the program to practice these skills

Discuss the efficacy of planned actions from past assessments of the same SLO. Did your previous action plan result in better student learning? What worked, what didn't work, etc.? If you have never assessed this SLO before, please put N/A.

- CA Biomfg PLO 3 Rel Everyday Su 21
 - The importance of emphasizing the relevance of the concepts of science to the everyday lives of the students is reflected on the success of this outcome as students meet the criteria in multiple classes on exams and in essays/written reports. Students are more successful when they can relate the concepts they are learning in the classroom to their every day lives. The ability to explain the scientific concepts and the ability to then make informed decisions about scientific issues is an important aspect of educating a scientific literate society.
- CA Biomanufacturing PLO 1 Equipment F 21
 - Pipetting and gel loading are essential skills, not only for accuracy in measurement but developing the delicate touch it takes to work with small amounts of liquid accurately. These skills translate into more complicated skills and techniques. Microscope use is important not only in microbiology but in the more advanced biomanufacturing courses that work with cells and cell cultures. In addition accuracy and paying attention to detail train students for accurate and efficient work in the workplace.

Additional Comments

Overall students are meeting the criteria for success in the program level outcomes. For PLO # 1 working with laboratory equipment, the students are building skills introduced in the certificate of proficiency classes and continuing to practice their skills in the many hours spent in the labs conducting hands on experiments. For PLO 2 communication the students are developing skills not only in the appropriate documentation of lab notebooks in the lab classes but also in the writing of lab reports and other written projects. For PLO # 3 The importance of emphasizing the relevance of the concepts of science to the everyday lives of the students is reflected in the success as students meet the criteria in multiple classes on exams and in essays/written reports. Students are more successful when they can relate the concepts they are learning in the classroom to their everyday lives. The ability to explain the scientific concepts and the ability to then make informed decisions about scientific issues is an important aspect of educating a scientifically literate society.

Action Plan

Timeline for Implementation Aggregate (Read Only)

BIOL 3 Sec Agg SLO 2 microbeseveryday Su21

- Timeline for Implementation: List the steps you will take to implement the Action Plan listed above with a timeline:

immediately

BIOL 75 Sec Agg SLO 1 F19

- Timeline for Implementation: List the steps you will take to implement the Action Plan listed above with a timeline:

This fall 2021 the same exam demonstration question will be used. Then there will be comparison data with the 2019 data. I will meet with the lab instructor to discuss outcomes and what the next steps will be.

Budget Request / Resource Aggregate (Read Only)

BIOL 3 Sec Agg SLO 2 microbeseveryday Su21

- How do you believe this will impact departmental budget requests and other types of resources?

no

BIOL 75 Sec Agg SLO 1 F19

- How do you believe this will impact departmental budget requests and other types of resources?

No.

Additional Comments (Make any additional comments, focusing on top priorities)

The biomanufacturing program faculty will continue to assess SLOs in the courses and report those assessments that contribute to the PLOs for the program. We have found that using the student learning outcomes from a variety of courses allows us to gain an overview of the effectiveness of the program. Discussions by the faculty of the areas of strengths of the students as well as areas that need more development have led to development of new curriculum (combining smaller classes into one large unit class) to facilitate students' moving through the program and into the workplace , or continuing on to complete the Associates of Science in Biomanufacturing Production at Laney College.

Next PLO Assessment 2024 Fall

You should plan to assess program within a 3-year cycle, but you may want to assess more often if you feel it is critical to implement your action plan and assess the same program again.

Attach Files

Attached File

Codes/Dates

Originator Blackie, Leslie

Approval Date