

All Fields

CP Bioman skills PLO aggregates F21

Main

Program Aggregate of PLOs

Assessment Information

Assessment Report Title CP Bioman skills PLO aggregates F21

Originator Blackie, Leslie

Semester Assessed Fall 2021

Select Program Biomanufacturing Skills (Active)

Contributor

Bruce, Doug

Program Assessments

Section Aggregate Included in this Assessment

CP Bioman Skills PLO 2 Lab notebook F19

CP Bioman Skills PLO 1 Fall 2021

Participation

Participation Aggregate (Read only)

How many sections were offered: 0

How many sections participated in the assessment: 2

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.
- Laboratory notebook maintained by students throughout the semester. Faculty teaching the class graded the lab notebooks and gave students feedback on how to improve quality of the lab
- Faculty graded lab reports (2) according to a grading rubric provided to the students ahead of time.

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 Certificate of Proficiency in Biomanufacturing skills . 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

- CP Bioman Skills PLO 2 Lab notebook F19

- The criteria success were met in this assessment cycle and in the previous assessment cycle as well.
- CP Bioman Skills PLO 1 Fall 2021
 - Skill demonstrations of pipetting and gel loading were assessed in 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.

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 certificate of proficiency introduces students to the skills needed for success in more advanced classes in the Biomanufacturing program

Reflection

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

CP Bioman Skills PLO 2 Lab notebook F19

Lab Notebooks to be purchased and available for students or loaner chrome books to do electronic lab notebooks training.

CP Bioman Skills PLO 1 Fall 2021

Continue to work with students on the basic skills of pipetting and gel loading. This is a skill set that is not taught in many other classes so is critical to be taught in the early parts of the biomanufacturing program. 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.

- CP Bioman Skills PLO 1 Fall 2021
 - 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. 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 introduced to working with different types of equipment in a variety of biomanufacturing labs and workplaces. For PLO 2 communication the students were able to understand the importance of appropriate documentation in lab notebooks and were introduced to the required documentation in the workplace.

Action Plan

Timeline for Implementation Aggregate (Read Only)

BIO 75 Sec Agg SLO 3 F19

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

immediately

BIOL 75 Sec Agg SLO2 (labreport) F19

- 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)

BIO 75 Sec Agg SLO 3 F19

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

Lab notebooks could be provided for the students in Biol 75. In addition lab notebooks should be kept as equipment logs for important pieces of equipment. These would be purchased by the department at a cost of \$500 per semester.

BIOL 75 Sec Agg SLO2 (labreport) F19

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

NA

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. There are concerns that due to the pandemic students have been introduced to lab concepts through at home kits and will need extra time in the following classes to practice the skills they learned at home instead of in our face to facelabs.

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