

Assessment, Improvement, Measurement (AIM) Report: 12/18/2013**Plan Year:** 2012-2013**Unit:** Biotechnology**Coordinator(s):** Deborah Sullivan-Davis, Karman Wheeler, Keith Allen**Reviewer:** Tammy Liles

Objective or Outcome	Measure(s)				
	Measure Text	Achievement Target	Results	Use of Findings/Next Steps	Assess Month
SLO 1 - PLO # 10 - Students will be able to design experiments, perform assays and suggest improvements with additional focus on incorporating raw data into lab notebooks.	Evaluate lab notebooks with rubric of checklist for inclusion and completeness.	All notebooks will score at least 80%	Considerable progress was made with regard to documentation and upkeep of student laboratory notebooks. We implemented a new instructional model that emphasizes ♦ good documentation practices (gdps) ♦ as explained in the textbook, ♦ Laboratory Manual for Biotechnology and Laboratory Sciences: The Basics. ♦ Students used a self-carbon type of laboratory notebook, in which the original remained intact in the notebook. The duplicate was turned in and graded. Each lab report was assessed in three parts: 1. A Pre- lab write up was completed before an experiment and checked by the instructor at the beginning of the lab period; 2. A lab notes/lab activity section in which students documented data and observations they made during the lab experiments, and; 3. An analysis/post-lab write-up in which students drew conclusions about the experiment. Did it work? Why or why not? Students discussed how they would change ♦ or not change ♦ the experimental components next time. This was due at the beginning of the next lab period. The effort invested in developing good habits of	A notebook grading rubric along with examples of student reports will be handed out during the first or second class meeting. Then students will be divided into groups and asked to criticize the sample reports i.e.: which report(s) met the requirements for earning the most points for organization, results, and other criteria.) See attached rubric.	April

			documentation reinforced the importance of maintaining a permanent, historical, and primary record of laboratory observations. Not all students achieved 80%, but the average score was 92.2%, a marked improvement from prior semesters.		
SLO 2 - PLO # 12 - Students will be able to perform documentation and data analysis, create documents, and communicate results.	1. Lab Notebooks 2. Homework assignments (creating and interpreting graphs in BTN 202) 3. Evaluation of data and unknown on components on the exam 4. Project in BTN 202 - Project that evaluate creating and interpreting documents in a final formalized report.	80% on these components on the Project in BTN 202 - creating and interpreting documents in a final formalized report (80% on these components of the project).	Students made appreciable progress in data analysis. In BTN 202, 16 laboratory reports were assigned during the course of the semester. Student interpretation of results improved from the beginning of the semester to the end, averaging at least 80% on homework assignments. Exam results averaged of 75%, which may be due to ♦test anxiety.♦ No project was assigned for BTN 202. This measurement will rollover.	This measurement will rollover. A grading rubric for laboratory notebooks as described (SLO #1) will provide more direction on how to complete data analyses. Students will be asked to criticize sample documents and determine which ones met the requirements for earning the most points.	April
SLO 3 - PLO #14 - Students will be able to demonstrate proficiency in preparing, maintaining, and storing biological and/or chemical materials.	1. Solution preparation - By measuring conductivity in multiple solution preparations (reproducibility and conductivity evaluations, storage, and label completeness) 2. Storage - Rubric for storage and preparation	85% of students demonstrating proper storage and labeling at first attempt.	Students did not demonstrate proper storage and labeling at the first attempt. Therefore, student improvement was measured by calculating the percentage increase of total cumulative points earned from exam 1 and final exam (29.3% increase). See attached explanation.	Specific instructions will be written and then distributed to students during the first or second classes meeting.	April