**Executive Summary**

(After completing the questions on the next few pages, please replace this area with a written executive summary of the questions that follow, including your data analysis, findings, action plan, and improvements you have already made. This will be the top sheet of your report. This summary should be at least a paragraph, and can definitely be longer if desired.)

We are reaching our PLO goals, with percentages of 92 and 89 percent for students’ success in our assessment rubrics. Our data indicates a high success rate for application of information, in the form of using scientific equipment and producing high quality scientific reports that comply with US standards on scientific report writing. We do see some needs in students’ ability to apply what they learn in our biology courses to real-world situations. However, even in that category we see high numbers around 90% success. One comment that is needed here is that our assessments took place the week prior to final exams, which means we did not capture data from a relatively large population of students who severed their matriculation in our biological sciences. Courses. This represents a huge source of extraneous variable, suggesting that our data is overly optimistic and most likely our data does not represent reality. We could remedy this problematic generation of data by assessing future students at random times throughout the semester.

**Faculty Included in the Preparation and Sharing of this Report:**

(please replace this area with the names of all faculty that helped to prepare and provide input on this report. This includes faculty who were parts of draft discussions and conversations. Ideally, it is all faculty representing the core disciplines making up the degree or certificate.)

Teri Curtis

Joe Zermeno

Elizabeth mcInnes

Catherine Greene

Derek madden

Dennis Gervin

**Please provide a brief and cogent narrative in response to each of the following questions.**

1. Provide a quantitative analysis for each PLO your CLOs inform. Provide the total number of students who passed/total number of students assessed in each PLO column *and* the corresponding PLO passing rate as an aggregated percentage*.*

Our data for the following topics in biology 111 are shown as passed/assessed for: Explain how the scientific method is used to solve problems / describing how scientific discoveries and theories affect human activities:

* + - 1. 265/302; 241/302

Investigate historical and current scientific theories in chemistry, general biology, ecology and molecular science.

* + - 1. 290/302; 291/302

Proficiently use scientific laboratory equipment and protocols.

* + - 1. 286/302; 275/302

 Conduct, record, and report on the results of scientific experiments.

Our data for the following topics in biology 116 are shown as passed/assessed for: Explain how the scientific method is used to solve problems / describing how scientific discoveries and theories affect human activities:

1. 157/182; 156/182

Student will be able to understand basic structure and function of humans and living organisms.

1. 161/182; 170/182

Student will understand genetic, molecular, biochemical, and evolutionary aspects of human biology.

1. 174/182; 165/182

 Student will understand the scientific method, physiology, and environment aspects of human biology.

**AWARD (and corresponding PLO) Students Passed/Assessed TOTAL RATE**

A.S Degree: University Preparation, Emphasis in Biological Sciences

1. *Apply the scientific method of discovery to problem solving situations in biology, mathematics, 265 302*

*and chemistry.*

1. *Proficiently use the scientific vocabulary, including the key terms and concepts in biology, 290 302*

*chemistry, and mathematics.*

1. Reflect on, consider and analyze the data you have. ***What does your CLO data tell you about how your students are achieving PLOs?*** *Be detailed, descriptive and analytical* in this qualitative assessment of each PLO in relation to your CLO data. **Are your results satisfactory?**

We are impressed with the acquired data from our students who have completed our biology courses. One of the possible explanation for our exceptional high success rates, in addition to the assessment timing at the conclusion of the course, was the extremely high level of expectation faculty have for their students. This is entirely appropriate since this biology department has enjoyed very high successful transfer rates to the university, and a high number of successful students who vie for placement in nursing and other professional programs. For this high success rate to continue, the biology department will require frequent replacement and/or repair of their laboratory equipment.

1. Your department and the college should be making improvements based on student learning outcomes assessment, and we need to continue to document and share the improvements and progress you have already made. Did you make any changes in your CLO or PLO statements or analysis during the last cycle or recently? Did you receive funding for resources requests that were aimed to improve assessment results? Did you make any improvements in the areas of teaching and instruction processes, your courses, or your program? *Please explain your accomplishments and provide details about your efforts.*

We streamlined our CLO statements recently to a core of topics that provide umbrella concepts that embody many related topics in the biological sciences, as taught at an introductory level in college. Our funding has been adequate to provide for the basic needs of scientific instruction structured at the university transfer level, meaning high quality laboratory equipment and facilities. We made numerous improvements due to the recent move to a new science community center. We have created a new anatomy club, have brought back operation green, and have expanded our biology special topics and projects courses, as well as re-introducing several field study endeavors that have been moth-balled for many years.

1. **Action Plan.** Based on the assessments and analysis you have provided, please consider what changes or improvements you would like to make, which might include updating your CLO statements, modifying course outlines, rethinking instruction efforts, using different assessment instruments, asking for additional resources to improve assessment results, etc. ***Based on the analysis, provide an action plan for improvement that draws on your assessment results and efforts.***

Our action plan cannot solely be constructed around our assessments because we do not have data from the students who exited our courses as part of the attrition/drop out populations. We can; however, propose an action plan that suggests a continuance of current funding for improvement and replacement of laboratory equipment. Of special note is the high usage of microscopes, and the rate that we see this equipment failing to withstand such intensive usage. Also, many other pieces of equipment in our biology majors program, and in our human biology program are in need of being replaced due to the high use of these items by students. Regarding our CLO data, we at least can feel confident that students who are completing our courses are doing so at a high rate of capability.