1. What courses/certificates/programs have you assessed this past semester?

**SLO Assessments:**
- BIO003: Introduction to Biology
- BIO033: Medical Terminology
- BIO006: General Biology I
- BIO007: General Biology II
- PHYSIOL001: Introduction to Human Physiology
- MICRO020: General Microbiology

**PLO Assessments:**
- Biology AS Degree
- Health Sciences AS Degree

2. Summarize the analysis of your assessment results for the fall semester course assessments in your area. Did the students achieve the established benchmarks (standards for student success)?

All assessments and evaluations are posted in the online SLO/PLO system. A PowerPoint presentation (How to enter SLOs: http://www.lamission.edu/lifesciences/Minutes.aspx) was created to assist the faculty in entering the SLOs.

**BIO003:** Based on the previous SLO assessments, the final lab exam was revised and divided into a group and individual exams. All BIO3 faculty assessed their SLOs using the revised exams. In general, the students require more training in genetics and graphing of experimental data. Based on the individual course outcomes, faculty members made specific recommendations, which are posted in the online SLO system.

**BIO033:** The established benchmark of 70% was achieved by the students. Writing out and correctly spelling medical terms remain the most difficult portion of the assessment. Repetitious practices in building and writing of the terms are recommended.

**BIO006:** The overall performance of students was above the benchmark and slightly better than the previous semester.
BIO007: Students were able to understand the issues and were able to critique the arguments. As with the previous assessment, students were weakest in the area of grammar and essay structure. One possible improvement might be to have students review the paper of a peer to proofread it for proper grammar.

PHYSIOL001: Overall, students created and delivered presentations that were well organized and well presented (above the established benchmark). Some of the students had difficulty pronouncing some of the technical terms in their presentations. Students will be encouraged to ask the professor about the pronunciation of words that are difficult for them to pronounce.

MICRO20: Students generally did well in all criteria with the exception of “Prevention”. To improve student performance it will help to do the following: 1) Make the guidelines for the assignment more explicit clarifying what sort of information is required, to use as many sources as necessary to obtain the needed information. 2) Have the assignment due earlier in the semester when students have more time available to put into the assignment.

Biology AS PLO: This semester one PLO in the Associate Degree in Biology was assessed. Only students who enrolled in both BIO006 and BIO007 over three semesters at LAMC were assessed to reflect a better analysis of the program outcome. The strengths revealed by this assessment that this small sample of students who have taken Biology 6 and Biology 7 during the Fall 2012, Spring 2013 and Fall 2013 semesters at LAMC do very well at identifying hypotheses and understanding and interpreting experimental results in a primary research paper. As a group no apparent weaknesses were seen although one or two students have much room for improvement.

Health Science AS PLO: This semester one PLO in the Associate Degree in Health Sciences was assessed. Only selected students who enrolled in both Anatomy 1 and PHYSIOL1 over two semesters at LAMC were assessed to reflect a better analysis of the program outcome. Overall, students created and delivered presentations that were well organized and very well presented. The average score was 85%, which is above the established benchmark (70%).

3. Based on the discussion and analysis of your assessment results, what changes have you made or do you plan to make?
   - To improve the process of learning, assessing, and evaluating the revised SLOs it is planned that SLOs be assessed at least every other semester to optimize the rubrics and assessment methods in addition to improving the curriculum.
   - A major change planned was a curriculum modification based on SLO and PLO evaluations. To improve the writing skills, English 28/ESL 8 will be added to most of life science courses as a prerequisite.
• As recommended per previous report, upon a review of the previous SLO and PLO assessments and evaluations most SLOs and PLOs were revised.
• To assess the PLOs accurately only students who completed at least two capstone courses required through the Department of Life Sciences at LAMC were assessed.
• Close collaboration with the tutors (Title V and STEM) is strongly encouraged.

4. Follow up on previous assessments:
   (1) If this SLO was assessed previously, compare the results with the earlier assessments. Have the recommended changes been implemented?

   In general, minor changes were recommended by the faculty, which are summarized under #2 in this report and posted in the SLO online system. The major change in the previous SLO assessment was observed in the BIO003 course. In the revised assessment the students complete an individual lab exam in addition to a group practical lab exam. The assessment criteria were also revised to reflect the revised SLOs. Based on the current assessment, certain areas require more attention by the faculty. In addition, it was discussed to revise the exams slightly based on the feedback received by the faculty this semester.

   (2) How have the findings led to improved student learning and the achievement of the college mission?

   • All SLOs and PLOs support the institutional learning outcomes (ILOs) and subsequently the college mission. The two most frequent ILOs that are captured by our SLOs are “Writing Skills” and “Information Competency”. Overall, the SLO and PLO evaluations indicated that students achieved a satisfactory level for the above-mentioned ILOs.

5. How have the results of your assessments been shared and discussed among the members of your program? (Provide dates and any minutes of meetings as evidence.)

   This semester, we revised most course SLOs and PLOs to reflect the assessments of the course and program objectives. The updated PLOs, SLOs, rubrics, and assessment outcomes were discussed with faculty via email (the document containing the email communication is attached).

   The SLO and PLO assessments were a major topic of our monthly department meetings this semester (minutes of department meetings are attached).

   To improve communication with adjunct faculty, it is also planned to have a year-end semester meeting with adjuncts to review the revised SLOs and evaluation methods.
Revised SLOs and PLOs including the assessment rubrics are posted on the Life Science Department website: http://www.lamission.edu/lifesciences/Minutes.aspx.

6. How have the results of your assessments been shared and discussed with members of your advisory committee (if vocational program)?
   NA

7. What resource requests are planned as a result of the assessments?
   - Continuous support by the STEM Center, Science Success Center, Writing Center, and the Library is extremely crucial in accomplishing the department goals.
   - Availability and accessibility to the free peer-reviewed scientific journals on EBSCO is requested.

8. Have the assessment results been posted on the online system?
   Yes

**NOTE:** The department of Life Sciences has not identified any SLOs for the life science courses that are offered through the co-op program. It is assumed that these courses are assessed and evaluated by the co-op office.

**Recommendation:** The department requests that more workshops are offered by professionals in the field to assist the faculty to understand the value, process of assessment, and evaluation of the SLOs. The availability of these workshops online will make them more accessible to all faculty, especially adjuncts.

**Attachments:**
- List of revised SLOs (http://www.lamission.edu/lifesciences/Minutes.aspx)
- Minutes of department meetings (http://www.lamission.edu/lifesciences/Minutes.aspx)
- Email communications