Course Assessment in a Box, Version II

Course Assessment in a Box is a practical tool for you to conduct assessment of course Student Learning Outcomes (SLOs). By following these simple steps, using assessment tools you already use to evaluate student work, you can easily produce a course assessment of SLOs.

These steps align with the course SLO assessment page in the CurricUNET Program Review Module. Once the steps are completed, simply attach it to your Program Review.

1. Number and name of the course being assessed:
   BIOL 103B Anatomy and Physiology

2. List all the Course SLOs from the Course Outline of Record:

   1. Relate observations on gross anatomical and histological structures to tissue and organ functions
   2. Interpret physiological homeostatic mechanisms and their interactions in multiple body systems. Relate normal homeostatic mechanisms to abnormal conditions observed in human pathologies.
   3. Apply normal physiological parameters to critically analyze abnormal and pathological conditions.
   4. Demonstrate skills in using biological instrumentation including ECG, spirometers and dissection of human and animal body systems.

3. If you have had any dialogue about the Course SLOs amongst faculty who teach this course, please describe it here (leave blank if there has been no specific dialogue):
   Zeni Shabani and I discussed using the publisher’s online program “Mastering” for both the 103A and 103B courses. Zeni introduced this program in 103A and I developed a version for 103B as a consequence of these discussions.

4. List the SLO(s) you are assessing in this particular instance:
   3. Interpret physiological homeostatic mechanisms and their interactions in multiple body systems. Relate normal homeostatic mechanisms to abnormal conditions observed in human pathologies.
   4. Apply normal physiological parameters to critically analyze abnormal and pathological conditions.

5. Describe the assessment strategy or tool that addresses the SLO(s):

   The case study assessment was continued as done in previous semesters assessments. These case studies are take home final tests that require students to understand the physiology of multiple body systems and apply their knowledge. Four new case studies were introduced and assessed using a similar rubric. Using that rubric all students showed an application level of learning (rubric value 1) and 91% of these 103B students were able to analyze and evaluate information (rubrics level 2 and 3).

   A second tool employed analyzing multiple choice question answers from laboratory quizzes and lecture examinations. Unlike the case studies, students were required to remember normal clinical
values and did not have reference materials available to them. These questions specifically required students to know normal clinical test values and ranges and then to analyze abnormal results. The percentage of students who successfully recognized normal parameters and the percentage that was able to analyze the underlying cause of abnormal parameters was determined.

NOTE: Try to use assessment strategies you are already using to evaluate student work as part of your grading system. Examples: Rubrics for Evaluating Projects or Assignments, Portfolio Evaluation, Culminating Projects, Final Exams, Writing Assignments, Performance Assessment, Department Testing, Pre and Post Tests, Vendor or Industry Certification Examinations, Indirect Assessments (Student Surveys, Focus Group Discussions, Interviews), or others....

6. Describe how the criteria or standards in this assessment tool link to the SLO(s) being assessed:

Zero indicates an inability to identify the normal underlying principles or parameters affected in the patient.
Value 1 indicates that the student correctly identified which principles or parameters were affected in the patient.
Value 2 was awarded to students who correctly analyzed how that physiological principle or parameter was abnormal in this context.
Value 3 was reserved for students who correctly analyzed how the pathology has altered those parameters or principles. These students are demonstrating not only how the principle or parameter was altered and how those normally act, but also showed an ability to integrate that understanding with the pathology.

See attached data.

7. By looking holistically at the results from all students, describe your findings:

Overall average of values: 2.8 out of 3. No student earned a zero in any of the questions, so they were able to correctly recognize the normal physiological principle that was affected. Most students (86%) were also able to correctly analyze the physiological parameters that were abnormal and related that abnormality to the diagnosis. (thus earning >2 on all questions). The four new case studies results were not significantly different than earlier case studies used.

The second assessment strategy differed from the first one in that students did this study as part of a quiz or exam and thus did not have access to reference materials on normal physiological or clinical values. When directly tested on their knowledge of normal clinical values in a quiz 65% of students knew those values. A multiple choice questions in the final exam required them to both know normal value and to evaluate the abnormal physiology. 90% correctly recognized abnormal values while 58% were able to analyze those abnormal values and determine the pathology without access to reference materials.

8. Describe faculty dialogue (if any) involved in the assessment process:

none

9. Based on an analysis of your findings and dialogue, describe revisions (if any) in curriculum or teaching strategies implemented to promote student success:

When students have access to reference materials they are highly successful at being able to analyze abnormal physiological or clinical findings and apply homeostatic principles to their knowledge. Less success was shown when students needed to remember the values and did not have access to reference materials. More emphasis needs to be placed on knowing the values in the future.

10. After the improvements are implemented, describe the results:
New case studies were introduced and a new set of instructions written. These aided the few students who did not grasp what was required.