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:

Biology 101A

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

1. Demonstrate proper use of common laboratory equipment such as microscopes and spectrophotometers.
2. Apply the scientific method and scientific reasoning to biological phenomena.
3. Demonstrate an understanding of cell structure, function and metabolism.
4. Detail the events involved in cellular reproduction, with emphasis on mitosis and meiosis.
5. Demonstrate an understanding of classical and molecular genetics and gene regulation.
6. Describe the mechanisms of gene regulation in prokaryotes and eukaryotes.
7. Outline the tenants of biological evolution.

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):

4. List the SLO(s) you are assessing in this particular instance:

3. Demonstrate an understanding of cell structure, function and metabolism.
4. Detail the events involved in cellular reproduction, with emphasis on mitosis and meiosis.
5. Demonstrate an understanding of classical and molecular genetics and gene regulation.
6. Describe the mechanisms of gene regulation in prokaryotes and eukaryotes.

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

Final Exams

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:

The SLOs were assessed using student responses to SLO-relevant questions on Final Exams. Results are presented as graphs showing the number of students as a function of score range. Score range is given as percentage of points (100-90%, 89.9-80%; 79.9-70%, etc.) answered correctly for questions pertaining to a given SLO.

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

See attached graphs and commentaries.

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

N/A

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

This is the first assessment of these SLOs. They will be assessed again next year before revisions will be considered.

10. After the improvements are implemented, describe the results:
SLO: Demonstrate an understanding of cell structure, function and metabolism.

Approximately 43% of students in Biology 101A scored 80% or higher on questions relating to cell structure, cell function, and cell metabolism. This indicates that these students achieved a critical understanding of the subject area and could apply their knowledge to solve problems in this area of biology. Around 52% (scoring between 60-79.9%) demonstrated a basic knowledge (factual recall) of the subject area. Only 5% had scores below 60%.

SLO: Detail the events involved in cellular reproduction, with emphasis on mitosis and meiosis.

Approximately 35% of students in Biology 101A scored 80% or higher on questions relating to cell reproduction. This indicates that these students achieved a critical understanding of the subject area and could apply their knowledge to solve problems in this area of biology. Around 49% (scoring between 60-79.9%) demonstrated a basic knowledge (factual recall) of the subject area. 16% had unsatisfactory scores below 60%.
SLO: Demonstrate an understanding of classical and molecular genetics and gene regulation.

![Score Distribution Graph]

Thirty percent of students in Biology 101A scored 80% or higher on questions relating to cell structure, cell function, and cell metabolism. This indicates that these students achieved a critical understanding of the subject area and could apply their knowledge to solve problems in this area of biology. Around 35% (scoring between 60-79.9%) demonstrated a basic knowledge (factual recall) of the subject area. Thirty-five percent had scores below 60%, indicating poor understanding of genetics.

SLO: Describe the mechanisms of gene regulation in prokaryotes and eukaryotes.

![Score Distribution Graph]

More than half of the students—57%—scored 80% or higher on questions relating to gene regulation, with an impressive majority of these scoring above 90%. This indicates that these students achieved a critical understanding of the subject area and could apply their knowledge to solve problems in this area of biology. Twenty-four percent (scoring between 60-79.9%) demonstrated a basic knowledge (factual recall) of the subject area. The rest—19%—had unsatisfactory scores below 60%.