

UNIVERSITY OF ARKANSAS PULASKI TECH

Assessment Report: BIOL 2301 Microbiology 2019-2020





Course-Level Learning Outcomes

1. What are the Course-Level Outcomes (CLOs)?

1. Describe the diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means.

2. Explain the basic genetic systems of bacteria, bacteriophage, and plasmids and the role in biotechnology and medicine.

3. Examine the development of public health and how medical scientific principles are applied for prevention and control of known and new diseases.

These CLOs are based on ACTS Course 2004 non-lab CLOs.

2. Which CLOs were addressed for this academic year? (2019-2020)

All three.

3. Which CLOs are being addressed in your assessment plan next academic year? (2020-2021)

All three.

4. Explain the assessment cycle.

CLOs are assessed every semester with major changes in assessment occurring annually. New assessment efforts start in the spring semester, with follow-up in the fall. Instructors meet at the beginning of each semester to analyze old results, develop changes to curriculum and assessment, and determine how assessment will be carried out.

5. What are the assessment methods? Are they direct or indirect?

We use a direct method of a quiz given to all students in all sections. The quiz has 3-4 questions pertaining to each CLO. Questions can be improved in the fall semester, however questions for new topics selected for assessment are substituted in during the spring semester.

Quiz questions must be taken for a score or points, and must not be shared beforehand.





6. What are the assessment goal(s)?

Besides the CLOs themselves, Microbiology is a follow up course to A&P I (1304) and Introductory Biology (1301). Assessment topics include concepts introduced in earlier course upon which we have added more conceptually. Therefore these assessments include assessing how much students learned and retained in earlier courses.

7. What were the findings for this academic year? (2019-2020)

Results are from fall 2019 and spring 2020 data.

1. Describe the diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means.

Pass rate: 74% N= 81 on three questions

2. Explain the basic genetic systems of bacteria, bacteriophage, and plasmids and the role in biotechnology and medicine.

Pass rate: 65% N= 81 on three questions

3. Examine the development of public health and how medical scientific principles are applied for prevention and control of known and new diseases.

Pass rate: 69% N= 81 on four questions

8. What is your analysis of the findings?

Results were discussed among the faculty. A question in CLO 2 was decided to be too vague, leading to lowest score for any question.

These results include assessment for Spring 2020, in which the COVID-19 pandemic disrupted class for two weeks, with many students struggling to attend online after the midterm. We are pleasantly surprised the students did so well despite the disruption. Out lecture course was aided by already having three instructors that had taught it online before, making the transition easier. However there were a few weeks when students did not attend, so had to make up material. There did not seem to be any issues conducting the assessment online.

9. What is the action plan for the next academic year? (2020-2021) Explain.



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Question 4 in CLO 2 were rewritten with more specific terminology. We are switching out two questions that students have consistently done well on. We are adding questions on biotechnology and classification of bacteria by growth (obligate anaerobe). Students are reporting disengagement due to many having to do the course online or virtually via Zoom. We are changing textbook publishers to add more interactive electronic textbooks, and questions with more immediate feedback and links to the text. Lectures are recorded and posted online.

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