UNIVERSITY OF ARKANSAS
PULASKI TECH

# Assessment Report:
# 2019-2020:

## Botany 2102

1. Name of individual compiling report: Paula Miles

2. Date of submission: Sept. 30th, 2020

3. Is the assessment plan (*Check or highlight one*)

an initial plan for the program  a revision of an old plan  unaltered from previous year

# Course-Level Learning Outcomes-

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

CLO 1: Test a hypothesis that is formulated from observations using the Scientific Method.
CLO 2: Describe the structure, function, classification, and evolution of vascular and non-vascular plants.
CLO 3: Explain plant reproduction, including mitosis and meiosis, and requirements for growth.
CLO 4: Describe plant physiological processes, including photosynthesis and cellular respiration, and ecological relationships
CLO 5: Demonstrate the use of the microscope and other lab equipment.

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

CLO 5: Demonstrate the use of the microscope and other lab equipment.

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

CLO 1: Test a hypothesis that is formulated from observations using the Scientific Method.

## 4. Explain the assessment cycle.

For the 2018-2019 assessment cycle, we were able to assess CLO 2-5 using several methods.

**Botany class (2302) and lab (2102) were separated between these two assessment cycles.**

For the 2019-2020 assessment cycle, we are assessing CLO 5 using one method (Microscope Checklist).

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

**Direct - Standardized Test** Microscope checklist to assess CLO5 Demonstrate the use of the microscope and other lab equipment.

## 6. What are the assessment goal(s)?

The goal is the same for all assessments: The level of proficiency is 80% or better to pass.

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

The microscope checklist has 19 steps and is worth 3 points per step. The microscope checklist is divided into 3 groups: Group A (setup), Group B (use), and Group C (microscope care).

**Fall 2020 Results**

Many but not all the students in this class had had the microscope checklist assessment in prior biology classes which was great as they reviewed their practice and then added to it. Each level in biology adds another skill the students must learn. In the botany class, the students must be able to make a slide from a plant specimen and get it into focus using best microscope practices. For this group of students, there was a little problem with 5 of the 10 students having an issue with focusing. Either they could not get the specimen in focus or they were using the course focus wheel after getting a focus at 4x. Some of these students admitted that they never spent much time using a microscope. This might be addressed by asking the students prior to using the microscopes in lab if they have experience. Then the students who had not had much experience could be helped more. Of the 10 students, 5 had a perfect score for this assessment. The overall proficiency for Group A was 88%, while the Group B proficiency was 81%, and Group C was at 89% proficiency.

**Spring 2020**

This was a great and prepared group of students. All 7 of the students who took the microscope assessment got all the steps correct. They all said they had practiced using the microscope in previous biology classes, which appears to be working.

The overall proficiency for Group A, B, and C was 100%.

## 8. What is your analysis of the findings?

Fall 2020: The overall proficiency for Group A was 88%, while the Group B proficiency was 81%, and Group C was at 89% proficiency.



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Spring 2020: The overall proficiency for Group A, B, and C was 100%.
All were above the proficiency level of 80%.

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

Action Plan for Microscope Assessment:
1. Set up labs ahead of time that require practicing on the microscope for points.
2. Have the students teach each other by putting them in pairs (one experienced and one not experienced) to practice the microscope with particular interest in separating the 3 groups of steps so that they are not confused.



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