UNIVERSITY OF ARKANSAS
PULASKI TECH

Assessment Report:
2019-2020:
EDUC 2340: Math for Teachers 2

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2. Date of submission: *September 28, 2020*

3. Is the assessment plan

☐ 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. Apply Polya's problem-solving process and strategies; Build new mathematical knowledge through solving problems and in context.

CLO #2. Apply and adapt a variety of appropriate strategies to solve problems.

CLO #3. Develop geometric concepts by recognizing, analyzing, measuring, and reasoning about two and three-dimensional shapes.

CLO #4. Formulate and solve problems that involve collecting and analyzing data.

CLO #5. Apply technology whenever appropriate.

CLO #6. Create and use representations to organize, record, and communicate mathematical ideas.

CLO #7. Communicate mathematical thinking coherently and clearly.

CLO #8. Explore basic concepts of probability.

CLO #9. Apply the use of patterns and symbolic notation to introduce algebraic relationships.

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

All CLOs were addressed.

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

All CLOs will be addressed for 2020-2021.

4. Explain the assessment cycle.

There is an annual assessment of this course using the spring semester cohort, as this course is no longer offered in the fall semester. All CLOs will all be assessed annually.

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

The course learning outcomes are assessed directly using a comprehensive final examination through WebAssign. Data is pulled from the instructor resources for an analysis of the results.

6. What are the assessment goal(s)?

To ensure mastery within the course, our goal is a 75% threshold for each student learning outcome.

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

CLO #1. Apply Polya's problem-solving process and strategies:
65.5% Goal not met.

CLO #2. Apply and adapt a variety of appropriate strategies to solve problems:
65.5% Goal not met.

CLO #3. Develop geometric concepts by recognizing, analyzing, measuring, and reasoning about two and three-dimensional shapes:

77.8% Goal met.

CLO #4. Formulate and solve problems that involve collecting and analyzing data:

73.8% Goal not met.

CLO #5. Apply technology whenever appropriate:

85.7% Goal met.

CLO #6. Create and use representations to organize, record, and communicate mathematical ideas:

91.1% Goal met.

CLO #7. Communicate mathematical thinking coherently and clearly:

78.6% Goal met.

CLO #8. Explore basic concepts of probability:

64.3% Goal not met.

CLO #9. Apply the use of patterns and symbolic notation to introduce algebraic relationships:

59.5% Goal not met.

8. What is your analysis of the findings?

Spring 2020 will forever be remembered as the beginning of COVID-19. The week before Spring Break our course pivoted to online instruction only, and the second half of the semester was unlike any we could have imagined when we began in January. With that being said, the students performed well on the assessment for many of the Course Learning Outcomes. For the CLOs which are below our goal of 75%, many are skills students struggle with even in a typical year. Mastery of problem solving (CLOs # 1 and #2) will always difficult. Much time needs to be spent problem solving to become proficient. Students are used to being told how to solve each type problem, and resist and resent having to be the problem-solver themselves. Being able to develop an algebraic

Return to Top of Document

understanding of patterns and relationships (CLO # 9) is also a challenging skill for our students to master. Not being in class together for the second half of the course made this even more of a challenge than usual, combined with the fact that students were struggling with all the changes in their situations (their own children's schools closing, changes in jobs, concerns with health, etc.)

CLOs #4 and #8 are closely related with the concepts of statistics, data collection and analysis, and probability. These were 73.8% (very close to the threshold) and 64.3%, respectively. In a typical year, there is every expectation these goals would have both been met.

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

A focused effort will be made to provide additional work in the areas of problem solving, statistics and probability, and introductory algebra. If COVID-19 modifications remain in place, there will be additional time for planning and implementation of learning activities which we expect will improve student outcomes.