



UNIVERSITY OF ARKANSAS
PULASKI TECH

Course-Level Assessment Report
Course: 1330 Technical Mathematics
Academic Year: 2020-2021

**Due to Chair/Program Director and Faculty Assessment Chair by
September 4**



1. Name of course: Technical Mathematics
2. Name of individual(s) compiling report: Mandy Hill
3. Date of submission: September 28th, 2021
4. Academic year: 2020-2021

Course-Level Learning Outcomes

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

Student Learning Outcomes:

SLO #1: Students will demonstrate the ability to understand and use the basic properties of arithmetic of signed numbers, fractions and decimals as well as the fundamental operations of algebra.

SLO #2: Students will demonstrate the ability to understand and use the properties of solving elementary algebraic equations, manipulating formulas, ratios and proportions, and translating words into algebraic symbols.

SLO #3: Students will demonstrate the ability to understand and use the basic principles of geometry including formulas for calculating area and volume of polygons.

SLO #4: Students will demonstrate the ability to understand and use the basic properties of right-angle trigonometry and basic oblique triangles.

SLO #5: Students will demonstrate the ability to understand and convert measures in the metric system and the English system.

2. Which CLOs were addressed for the academic year?

Student Learning Outcomes:

SLO #1: Students will demonstrate the ability to understand and use the basic properties of arithmetic of signed numbers, fractions and decimals as well as the fundamental operations of algebra.

SLO #2: Students will demonstrate the ability to understand and use the properties of solving elementary algebraic equations, manipulating formulas, ratios and proportions, and translating words into algebraic symbols.

SLO #5: Students will demonstrate the ability to understand and convert measures in the metric system and the English system.

3. Which CLOs are being addressed in your assessment plan in the upcoming academic year?

Student Learning Outcomes:

SLO #1: Students will demonstrate the ability to understand and use the basic properties of arithmetic of signed numbers, fractions and decimals as well as the fundamental operations of algebra.

SLO #2: Students will demonstrate the ability to understand and use the properties of solving elementary algebraic equations, manipulating formulas, ratios and proportions, and translating words into algebraic symbols.

SLO #5: Students will demonstrate the ability to understand and convert measures in the metric system and the English system.

4. Explain the assessment cycle.

Students in the course are given a common final exam at the conclusion of each semester to ensure mastery of the student learning outcomes for the course. The results are tabulated and a discussion occurs with the course level instructors to analyze the results. Decisions are made only after thorough discussions and validity of results analyzed in more than one semester to ensure consistency. Discussions with the Technical Science instructors also occur periodically to ensure the course is meeting the needs of students within those disciplines as is the intention of the course. There has recently been some change in leadership in the Technical Science program that has made this difficult, but as soon as leadership is in place the goal is to resume communication about the needs of the course.

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

The assessment for this course is a direct measure using a common final exam for all sections and students in the course during each semester.

6. What are the assessment goal(s), including benchmarks?

To ensure mastery within the course, our goal is a 70% threshold for each student learning outcome. This may be raised in future semesters once we have established a baseline for the course.

7. What were the findings for the academic year?

To ensure mastery within the course, our goal is a 70% threshold for each student learning outcome. This may be raised in future semesters once we have established a baseline for the course. The retention rate is remaining low, but is consistent with pre-covid numbers of right below 50%. We had a larger than average group of 96 students in the Fall of 2020. When looking at the overall results of the final exam, the average was 79.29% for the Fall of 2020 and 84.62% for the Spring of 2021.

8. What is your analysis of the findings?

We have revised the course to go over the first 7 chapters that cover SLO 1 Arithmetic, SLO 2 Algebra, and SLO 5 Measurement. The other two objectives: SLO 3 Geometry and SLO 4 Trigonometry were covered by the students completing an assignment that was specific to the students' trade. When looking at the final, the results seem to show overall greater success with less students in the Spring semesters. SLO 1 Arithmetic is the score that students are the most successful with students scoring 88.05% in the Fall of 2020 and 87.08% in the Spring of 2021. SLO 2 Algebra had students scoring an all time high of 84.55% in the Spring of 2021, the Fall score of 77.31 is about 4% higher than the average for previous semesters. SLO 5 Measurement also scored an all time high of 90.91 in the Spring of 2021. The Fall score for SLO 5 Measurement was down, 68.08%. It is not evident if this is COVID related. This objective is covered near the end of the semester, this could impact students because the attendance seems to drop when they experience some success in the beginning.

9. What is the action plan for the upcoming academic year? Explain.

In the Spring of 2021, a measurement-based Project will be added to reinforce these objectives. We have not been capturing the results for SLO #3 Geometry and SLO #4 Trigonometry, the goal will be to phase out a few questions on the final for SLO#1 Arithmetic and SLO #2 Algebra so that we can replace them with SLO #3 and SLO #4 so the progress in those objectives can be tracked more efficiently.