Tania Munding

Spring 2014

Assessment of SLO # 2 for Math 101A:

Apply differential calculus to problems involving related rates and optimization at the intermediate level.

Goal of the assessment

As a department we continue to evaluate how students progress and retain knowledge in Math 101A, Calculus class.

Results

In the spring semester of 2014 I assessed how students can apply differential calculus to solving word problems involving related rates and optimization.

Related Rates: After completing Chapter 3, Derivatives, which includes section 3.10 – Related rates, I evaluated the results on this chapter by giving the class Test 3 which had 1 question, a word problem, on related rates. 20 students out of 23 showed a good understanding of the concept. This corresponds to the success rate of 86%. After analyzing the test results I came to the conclusion that most of my students did very well on this objective. Some students had a problem with measurement units. The word problem on related rates was also included in the Final exam. Results were very good. 18 students out of 21 students, or 86%, retained the understanding of the concept of related rates.

Optimization: After covering Chapter 4, Applications of Derivatives, I assessed the results of SLO # 2 by giving the test 4 which contained 12 problems. 2 out of 12 had an assignment on optimization. For example: Find a production level that will minimize the average cost of making x items for the given conditions, Students were using derivatives to solve these word problems. 20 out of 23 students or 86% solved these problems completely. Students showed an understanding of applications of derivatives to solving optimization problems. My Final Exam contained 1 question out of 25 on optimization because solving these types of problems takes a lot of time. 18 students out of 21 showed good understanding of the concept. I had 23 students by the end of the semester in my class. 2 did not show up for the Final. 20 students passed the class with the grade of C or better. Out of 21 students who took the Final, 18 students showed adequate knowledge of the related rates and optimization concepts.
Conclusion

My students grasp applications of derivatives and their importance. I think that last spring semester I had a very good contingent of students who were very self disciplined and hard working. Some students get enrolled in Math 101A class with poor algebra skills and it causes them to drop the class or score lower on tests.

Improvement Ideas

I have the same impression as in the previous semesters of some students lack of algebraic preparedness for calculus. We need to improve the teaching of Algebra.