Santiago Canyon College
Mathematics Department

Math 160, Trigonometry

Fall 2013

Student Learning Outcome Assessment

Math 160 Student Learning Outcomes

1. Analyze, sketch and apply the six trigonometric functions and polar equations using such principles as asymptotic, periodic, and reciprocal behavior, as well as plotting points generate by a table or electronic device.

2. Model, evaluate and solve equations and real-world problems using inverse functions, Law of Sines, Law of Cosines, technological tools, and algebraic techniques.

3. State, verify, and apply trig identities, including but not limited to reciprocal, co-functional and Pythagorean identities, sum and difference identities, double- and half-angle identities.

COURSE SLO ASSESSMENT REPORT, SCC

Department: Mathematics Course: Math 160

Year: 2013 Semester: Fall

1) Outcomes to be assessed	2) Means of assessment and criteria of success	3) Summary of data collected	4) Analysis of data	5) Plan of action/what to do next
SLO #3 - State, verify, and apply trig identities, including but not limited to reciprocal, co-functional and Pythagorean identities, sum and difference identities, double- and half-angle identities.	6 questions from the department final relating to SLO #3 will be evaluated from each course section. Success for the multiple choice questions (#1-5) will be met if there is a 70% passing rate. Success for the work out problem (#6) will be based on a 2 or 3 on the rubric.	Number of students evaluated: 155 What percent is this of the total students still enrolled in the course? All Total number of sections: 5 Number of sections that were involved in the assessment: 5 Question 1 (Reciprocal ID): 66% Question 2 (Reciprocal ID): 85% Question 3 (Double angle): 57% Question 4 (Sum/differ ID): 59% Question 5 (Double angle): 44% Question 6 (Sum/differ ID): 75%	While we would prefer to see a higher passing rate across all 6 questions, it is encouraging that reciprocal identities and sum and difference identities had an acceptable rate of success in one of the two questions analyzed. Double angle identities had the lowest success rate. Although the success rates are not where we would like to see them, it is a much better result than last year's assessment of SLO #2 which only had a 28% and 37% success rate.	Send these assessment results to the past and current instructors. Encourage instructors to focus on double angle identities, especially as these are required in future course.

Question 1 (Reciprocal ID): 103/155 66%
Question 2 (Reciprocal ID): 131/155 85%
Question 3 (Double angle): 88/155 57%
Question 4 (Sum/difference ID): 92/155 59%
Question 5 (Double angle): 68/155 44%
Question 6 (Sum/difference ID): 116/155 75%

Math 160 Trigonometry, Fall 2013, SLO Assessment

Three-point Rubric
http://www.delranschools.org/94120102516328467/lib/94120102516328467/3_point_math_rubric.pdf

3
• Shows you completely understand the math task.
• You have the correct answer, OR there is a minor computational error.
• You showed all work, and the explanation is crystal clear.
• The reader DOES NOT have to guess what you did and why you did it.

2
• Shows you understand most of the math task.
• You have the correct answer, OR there is a minor computational error.
• You have the explanation, but it is *not* clear. (It might not show all of the work.)
• The reader has to guess what you did and why.

1
• Shows you understand only a small part or none of the math task.
• You did not get the right answer, OR you got the right answer but there is **no** explanation at all.
• Your explanation is *not* clear.
• The reader has little clue what you did and why.

0
• Question was left blank.
• The reader has no clue as to what you did and why.

Assessment Cycle for Math 160

All SLOs should be assessed at least once within a three-year cycle. A complete assessment cycle includes: gathering assessment data, analyzing assessment data, sharing results within the department or discipline, and reporting results. In the matrix below, indicate the term in which each of your course SLOs will be assessed (inclusive of the entire assessment cycle).

SLO	Data Gathered	Data Analyzed	Data Shared Improvement Dialogue	Results Reported	Changes Implemented
SLO 1 **Analyze, sketch and apply the six trigonometric functions and polar equations using such principles as asymptotic, periodic, and reciprocal behavior, as well as plotting points generate by a table or electronic device.**	Late Fall 2011 and repeat every 3 years.	Beginning Spring 2012 and repeat every 3 years.	Mid Spring 2012 and repeat every 3 years.	By End Spring 2012 and repeat every 3 years.	Fall 2012 and repeat every 3 years.
SLO 2 **Model, evaluate and solve equations and real-world problems using inverse functions, Law of Sines, Law of Cosines, technological tools, and algebraic techniques.**	Late Fall 2012 and repeat every 3 years.	Beginning Spring 2013 and repeat every 3 years.	Mid Spring 2013 and repeat every 3 years.	By End Spring 2013 and repeat every 3 years.	Fall 2014 and repeat every 3 years.
SLO 3 **State, verify, and apply trig identities, including but not limited to reciprocal, co-functional and Pythagorean ids, sum and difference ids, double- and half-angle ids.**	Late Fall 2013 and repeat every 3 years.	Beginning Spring 2014 and repeat every 3 years.	Mid Spring 2014 and repeat every 3 years.	By End Spring 2014 and repeat every 3 years.	Fall 2015 and repeat every 3 years.