Course Outcomes Guide (COG)

Directions: Please complete this form to document your progress toward improving student learning. For each item, indicate your progress and your anticipated next steps. Thank you!

Course Title: Math 102, Trigonometry **Date:** May 2013

Course Team: Christopher Lewis

Expected Learning Outcomes

In this course students will acquire:

1. Use computational techniques and algebraic skills essential for the study of exponential and trigonometric functions, as well as their inverses.. (Computational and Algebraic Skills)
2. Use visualization, spatial reasoning, as well as geometric properties and strategies to model and solve problems involving exponential and trigonometric functions, as well as their inverses.. (Geometric Skills)
3. Use technology, where appropriate, to enhance and facilitate mathematical understanding, as well as an aid in solving problems and presenting solutions. (Technological Skills)
4. Communicate and understand mathematical statements, ideas and results, both verbally and in writing, with the correct use of mathematical definitions, terminology and symbolism. (Communication Skills)
5. Work collaboratively with peers and instructors to acquire mathematical understanding and to formulate and solve problems and present solutions. (Collaborative Skills)

General Education Outcomes:

Upon successful completion of this course students will be able to:

1. Apply mathematical methods involving arithmetic, algebra, geometry, and graphs to solve problems.
2. Represent mathematical information and communicate mathematical reasoning symbolically and verbally.
3. Interpret and analyze numerical data, mathematical concepts, and identify patterns to formulate and validate reasoning

Assessment (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)

The students demonstrate achievements of each outcome by completion of 10 quizzes, 3 exams, and a final exam. There is only one instructor for the course, so there is uniformity in assessment and instructional delivery.

Starting in the Fall 2011 common problems from the exams, correlated with the learning outcomes have been selected and administered from semester to semester. The results and the common assessment problems are given below.

Fall 2011	88%	94%	60%	63%
Spring 2012	76%	85%	96%	53%
Fall 2012	80%	89%	90%	65%
Spring 2013	93%	99%	98%	63%

Validation (What methods have you used or will you use to validate your assessment?)

The common assessment will test student achievement of the learning outcomes. Validity to a large part is then determined by the appropriateness of the topics and the learning objectives, which, based on studying course descriptions of trigonometry of 4 year transfer colleges and universities, are comprehensive and complete.

Results (What do your assessment data show?

Written explanations of mathematical results with correct statements of definitions and correct terminology could be improved (Learning Outcome 4). There are average to above average results for achievement of the other learning outcomes.

Follow-up (How have you used or how will you use the data to improve student learning?)

Provide more practice by assigning more homework problems that require written explanations.

Budget Justification (What resources are necessary to improve student learning?)

No budget requirements are anticipated.

Course: MAT 102 SLOA Data
Faculty Team

	FA 2010	SP 2011	SU 2011	FA 2011	SP 2012	SU 2012	FA 2012	SP 2013	SU 2013
# Active students	29	21	13	22	17	17	30	13	
%W	6.9	19	7.7	18.2	5.9	0	6.7	15.4	
*% walk-away Fs No final exam/grade = F	6.9	14.3	0	9	5.9	11.8	10	0	
% Success	68	52.4	76.9	59.1	58.8	76.5	71.4	54.5	

(A,B,C)									
Common Comprehensive Final Exam Score				76	77.5		81	88.3	
Mean course grade	2.3	2.18	2.75	2.28	1.75				
Item Analysis **Weakest Content Areas**				SLO 4	SLO 4		SLO 4	SLO 4	

*% Walk-away Fs = Did not take the final exam and received a grade of F.