Course Outcomes Guide (COG)

Course Title: MAT 108 Fundamentals of Mathematics II   **Date:** 5/11/15

Course Team: Joseph Mason

STUDENT LEARNING OUTCOMES:
General Education Outcomes:
Upon successful completion of this course, students will learn how 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.

Course Outcomes:
Upon successful completion of this course students will be able to:
1. Use computational techniques and algebraic skills essential for success in an academic, personal, or workplace setting. (Computational and Algebraic Skills)
2. Use visualization, special reasoning, as well as geometric properties and strategies to model and solve problems. (Geometric Skills)
3. Collect, organize, and display data as well as use appropriate statistical methods to analyze data and make inferences and predictions. (Statistical Skills)
4. Critically analyze and construct mathematical arguments. (Proof and Reasoning)
5. Use technology, where appropriate, to enhance and facilitate mathematical understanding, as well as an aid in solving problems and presenting solutions. (Technological Skills)
6. 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)
7. Work collaboratively with peers and instructors to acquire mathematical understanding and to formulate and solve problems and present solutions. (Collaborative Skills)

ASSESSMENT
Student achievement of outcomes will be assessed through classroom discussions, activities involving manipulatives, activities involving technology, activities involving the creation of worksheets, a common final, Praxis I Exam questions dealing with material covered in this course, actual Praxis I Exam scores, and feedback from past and present students.

VALIDATION

Results of the Praxis I Exam, feedback from students on their experience with the Praxis I Exam, feedback from present students on material covered in course, and feedback from previous students will be used to validate assessments.

RESULTS

Praxis scores indicate that our students are getting a higher percent of questions correct in all four math categories on the math portion then other state institutions and on the national level. The percent correct in each of the four math categories has been increasing over the past several years while state and national percentages have remained nearly the same. Feedback from students that have moved on to a four year college and from previous students that have graduated from a four year college and are presently teaching has been very positive.

FOLLOW-UP

Information from the Yearly Institutional Summary Report is used to study the strengths and weakness of our students and thus modify course content. Student exam results have been used to evaluate understanding of material by students. Student feedback has been used by the instructor to self-evaluate his teaching and improve the quality of the course. On-line learning platform is being changed and course content has been modified to include Common Core Standards for Mathematics in grades K - 6.

BUDGET JUSTIFICATION

Materials and manipulatives needed to keep current with the present education trends.

Course: MAT 108 **SLOA Data** **Faculty Team**

	FA 2011	SP 2012	FA 2012	SP 2013	FA 2013	SP 2014	FA 2014	SP 2015	FA 2015	SP 2016	FA 2016	SP 2017	FA 2017	SP 2018	FA 2018	SP 2019
# Active students		28	8	29	13	29	10	28								
# Withdraws % Withdraws		0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%								
# walk-away F's % walk-away F's No final exam/grade = F		0 0%	0 0%	0 0%	0 0%	1 3%	0 0%	0 0%								
# Successful (A,B,C) % Success (A,B,C)		27 96%	7 88%	29 100%	13 100%	26 88%	10 100%	28 100%								
Common Exam 1 Avg.		79%	92%	89%	76%	71%	69%	73%								
Common Exam 2 Avg.		73%	90%	80%	84%	90%	85%	78%								
Common Exam 3 Avg.		75%	76%	89%	75%	86%	87%	75%								
Final Exam Avg.		81%	79%	70%	74%	75%	81%	81%								
Gen Ed Assessment (8)		84%	83%	79%	6.27 78%	6.26 78%	5.89 74%	4.82 60%								
MAT 108 SLOA Assessment (55)					40.42 73%	41.19 75%	40.56 74%	39.89 73%								
Mean course grade		87%	88%	82%	86%	86%	85%	86%								

Weakest Content Areas of students taking course:

1. Working with percentages.   2. Working with geometric shapes.

3. Transformations.

Praxis I paper test results from Institutional Summary Report 5290

Dates	n	Category I Number and Operations			Category II Algebra			Category III Geometry and Measurement			Category IV Data Analysis and Probability		
		HCC Average	State-wide Average	National Average	HCC Average	State-wide Average	National Average	HCC Average	State-wide Average	National Average	HCC Average	State-wide Average	National Average
9/01/2005 through 8/31/2006													
9/01/2006 through 8/31/2007													
9/01/2007 through 8/31/2008	28	58%	53%	56%	57%	53%	56%	66%	56%	58%	63%	56%	58%
9/01/2008 through 8/31/2009	24	52%	49%	54%	53%	51%	55%	57%	48%	53%	67%	56%	61%
9/01/2009 through 8/31/2010	24	63%	54%	56%	65%	53%	56%	71%	55%	58%	72%	56%	60%
9/01/2010 through 8/31/2011	33	63%	53%	55%	69%	58%	59%	63%	54%	55%	70%	56%	57%
9/01/2011 through 8/31/2012	38	58%	51%	53%	65%	55%	57%	61%	56%	58%	69%	62%	62%
9/01/2012 through 8/31/2013	23	57%	49%	48%	62%	50%	51%	60%	55%	55%	70%	59%	61%
9/01/2013 through 8/31/2014	15	55%	51%	52%	67%	52%	52%	67%	57%	58%	59%	52%	52%
9/01/2014 through 8/31/2015													
9/01/2015 through 8/31/2016													
9/01/2016 through 8/31/2017													

Praxis I computer test results from Institutional Summary Report 5290

Dates	n	Category I Number and Operations			Category II Algebra			Category III Geometry and Measurement			Category IV Data Analysis and Probability		
		HCC Average	State-wide Average	National Average	HCC Average	State-wide Average	National Average	HCC Average	State-wide Average	National Average	HCC Average	State-wide Average	National Average
9/01/2005 through 8/31/2006													
9/01/2006 through 8/31/2007													
9/01/2007 through 8/31/2008	0												
9/01/2008 through 8/31/2009	8	62%	65%	67%	67%	67%	69%	74%	63%	66%	76%	74%	76%
9/01/2009 through 8/31/2010	6	81%	67%	68%	79%	70%	71%	80%	67%	68%	85%	76%	77%
9/01/2010 through 8/31/2011	0												
9/01/2011 through 8/31/2012	5	68%	68%	68%	55%	70%	69%	69%	68%	67%	80%	76%	76%
9/01/2012 through 8/31/2013	9	79%	70%	69%	82%	71%	71%	73%	66%	66%	79%	76%	76%
9/01/2013 through 8/31/2014	21	71%	69%	68%	75%	71%	70%	67%	65%	65%	83%	76%	75%
9/01/2014 through 8/31/2015													
9/01/2015 through 8/31/2016													
9/01/2016 through 8/31/2017													