

## 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:** MAT 098 Pre-Algebra

**Date:** June 2016

**Course Team:** Carrie Hawbecker, Lead Instructor

### Expected Learning Outcomes

#### STUDENT LEARNING OUTCOMES FOR MAT 098, Pre-Algebra

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

1. Perform computational skills with integers, fractions, decimals, ratios, and rates.
2. Have an understanding of mean, median, and mode.
3. Solve linear equations.
4. Show an understanding of conversions involving percent and applications.
5. Communicate and understand mathematical statements, ideas and results with the correct use of mathematical definitions, terminology and symbolism.

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

All the student's homework and quizzes are created via MyMathLab. The questions are chosen to build the student's skills to achieve the Learning Outcomes. Each of the homework assignments and quizzes are graded via MyMathLab so each student are learning the same concepts and achieving the same set of skills. The tests are also generated via MyMathLab by the lead instructor to make sure all of the outcomes are being met for the student to be successful in the next course.

MyMathLab is computer based. The final exam assessment cannot be attached since this COG document is posted on HCC's website. If it was, the students would have access to it.

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

We use MyMathLab so all students are completing the same homework, quizzes, and tests. There is a comprehensive final exam with 2 essay questions. This is used to analyze the Student Learning Outcomes. All instructors use the same rubric to grade the tests. See attachment for the rubric.

**Results** (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

Using the new curriculum, the success rate for fall 2015 was 57.7%. In spring 2016, it was 57.6%. The success rate was 57.6% for 2015-2016 compared to 56.9% in 2014-2015. This data was generated by instructors entering all information of the student's grades in the course, the SLOA questions from the final exam, and the final exam scores into Excel. It was then imported into the program Mathy. Each SLOA objective was analyzed by the Mathy program. The changes in the objectives were made in fall 2014. The success rate was consistent from the previous year.

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

There will be changes in the curriculum for fall 2016. MAT 098 will now be 2 credits and will not use MyMathLab. This is not due to the success rate. We have changed the placement test to 57+ on the Arithmetic test and 30-56 on the IntroAlgebra test will now place the students in MAT 099. More of the algebraic material will be covered in MAT 099 and the basic algebra will be covered in MAT 098.

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

No requests at this time.

## Grading Rubric for Developmental Mathematics

This general scale is to be used for all Tests and Final Exams in MAT 098, MAT 099, and MAT 100.

Percentage of Point Value	Description	
	<i>Computational Questions</i>	<i>Essay Questions</i>
100%	The student has the problem worked out completely, showing all the proper steps, and has the correct answer.	Answer must meet the criterion listed to the left AND must also be in complete sentences and use correct mathematical terminology and symbolism
90%	The student has worked out the problem using the correct mathematical procedure, but has made one minor mathematical (arithmetical) mistake giving the incorrect answer (unless the problem is testing one of these concepts, as oft is the case in MAT 098).	The criterion to the left is to be used.
75%	The student has used the correct mathematical procedure, but has several minor arithmetical errors or has one more major mathematical error in the problem.	The theme of the answer is correct, but has a minor error in mathematical terminology or symbolism OR the answer is not grammatically correct.
50%	The student has started the problem using the correct mathematical procedure, but has several mathematical errors and weak justification for the work.	The theme of the answer is correct but there is major mistake in mathematical terminology or symbolism.
25%	The student response demonstrates understanding of at least one major concept, however, it is mostly incorrect. Justifications may be missing or may lack clear mathematical reasoning. Only the correct answer is given without any supporting work.	The criterion to the left is to be used.
0	The student response is incorrect and lacks reasonable justification. The student did not respond to this problem.	The criterion to the left is to be used.

Revised 14/FA

Success Rate  
AY 2014-2015 to AY 2015-2016

**MAT-098 AY 2015-2016**

	<b>Total</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>F</b>	<b>WF</b>	<b>W/I/AU</b>	<b>Success</b>	<b>Completer Success</b>
2015-2016 Summary	328	20.1% (n=66)	24.4% (n=80)	13.1% (n=43)	0.9% (n=3)	35.4% (n=116)	18.9% (n=62)	6.1% (n=20)	57.6% (n=189)	76.8%

**MAT-098 AY 2014-2015**

	<b>Total</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>F</b>	<b>WF</b>	<b>W/I/AU</b>	<b>Success</b>	<b>Completer Success</b>
2014-2015 Summary	383	18.3% (n=70)	23.2% (n=89)	15.4% (n=59)	0.0% (n=0)	36.0% (n=138)	15.1% (n=58)	7.0% (n=27)	56.9% (n=218)	73.2%

Grade Distribution Each Semester

Grade Distribution for 15/SU

Course Level Summary

	Total	A	B	C	D	F	WF	W/I/AU	Success	Completer Success
MAT-098	44	18.2% (n=8)	27.3% (n=12)	13.6% (n=6)	0.0% (n=0)	36.4% (n=16)	20.5% (n=9)	4.5% (n=2)	59.1% (n=26)	78.8%

Grade Distribution for 15/FA

Course Level Summary

	Total	A	B	C	D	F	WF	W/I/AU	Success	Completer Success
MAT-098	182	19.2% (n=35)	23.1% (n=42)	15.4% (n=28)	1.6% (n=3)	34.1% (n=62)	25.8% (n=47)	6.6% (n=12)	57.7% (n=105)	85.4%

Grade Distribution for 16/SP

Course Level Summary

	Total	A	B	C	D	F	WF	W/I/AU	Success	Completer Success
MAT-098	102	22.5% (n=23)	25.5% (n=26)	8.8% (n=9)	0.0% (n=0)	37.3% (n=38)	5.9% (n=6)	5.9% (n=6)	56.9% (n=58)	64.4%

## SLOA Assessment

### MAT-098 SLOA Assessment for 15/SU

	Registered	Completed	SLO1	SLO2	SLO3	SLO4	SLO5	Total
<b>15/SU Average</b>	<b>44</b>	<b>33</b>	<b>3.01</b>	<b>3.06</b>	<b>3.33</b>	<b>3.07</b>	<b>2.38</b>	<b>14.85</b>
			<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 20</i>
			75.3%	76.4%	83.3%	76.7%	59.5%	74.3%

### MAT-098 SLOA Assessment for 15/FA

	Registered	Completed	SLO1	SLO2	SLO3	SLO4	SLO5	Total
<b>15/FA Average</b>	<b>182</b>	<b>123</b>	<b>3.28</b>	<b>2.99</b>	<b>3.39</b>	<b>3.06</b>	<b>2.53</b>	<b>15.25</b>
			<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 20</i>
			82.0%	74.8%	84.8%	76.5%	63.3%	76.3%

### MAT-098 SLOA Assessment for 16/SP

	Registered	Completed	SLO1	SLO2	SLO3	SLO4	SLO5	Total
<b>16/SP Average</b>	<b>102</b>	<b>64</b>	<b>3.36</b>	<b>3.38</b>	<b>3.50</b>	<b>3.10</b>	<b>2.71</b>	<b>16.07</b>
			<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 4</i>	<i>of 20</i>
			84.1%	84.6%	87.6%	77.5%	67.9%	80.3%

## MAT-098 SLOA Report

Lead Faculty: Carrie Hawbecker

Term	Course Results					Common Assessments				
	# of Students	Success	Walk-Away F	Withdrawal	Mean GPA	PreTest Avg	PostTest Avg	Avg Change	Course	GenEd
12/SP	n = 236	50.8% n = 120	16.5% n = 39	9.3% n = 22	1.69	N/A out of 10	N/A out of 10	N/A	---	N/A
12/SU	n = 75	66.7% n = 50	20.0% n = 15	2.7% n = 2	2.21	2.18 out of 10	5.75 out of 10	3.39	---	N/A
12/FA	n = 152	50.0% n = 76	28.3% n = 43	10.5% n = 16	1.65	2.25 out of 10	5.94 out of 10	3.59	---	N/A
13/SP	n = 155	56.8% n = 88	32.3% n = 50	3.9% n = 6	1.83	2.59 out of 10	6.34 out of 10	3.55	---	N/A
13/SU	n = 76	53.9% n = 41	0.0% n = 0	6.6% n = 5	1.79	2.68 out of 10	5.88 out of 10	3.22	---	N/A
13/FA	n = 200	57.0% n = 114	18.5% n = 37	7.0% n = 14	1.77	2.16 out of 10	5.91 out of 10	3.49	3.63 out of 6	N/A
14/SP	n = 161	46.0% n = 74	34.8% n = 56	6.8% n = 11	1.51	2.42 out of 10	5.78 out of 10	3.17	3.86 out of 6	N/A
14/SU	n = 66	63.6% n = 42	21.2% n = 14	3.0% n = 2	1.97	2.63 out of 10	6.01 out of 10	3.18	3.60 out of 6	N/A
14/FA	n = 194	58.2% n = 113	21.6% n = 42	8.8% n = 17	1.95	N/A	N/A	N/A	14.96 out of 20	N/A
15/SP	n = 124	51.6% n = 64	34.7% n = 43	5.6% n = 7	1.68	N/A	N/A	N/A	15.20 out of 20	N/A
15/SU	n = 44	59.1% n = 26	20.5% n = 9	4.5% n = 2	1.90	N/A	N/A	N/A	14.85 out of 20	N/A
15/FA	n = 182	57.7% n = 105	25.8% n = 47	6.0% n = 11	1.90	N/A	N/A	N/A	15.25 out of 20	N/A
16/SP	n = 102	56.9% n = 58	31.4% n = 32	4.9% n = 5	1.94	N/A	N/A	N/A	16.07 out of 20	N/A