Course Outcomes Guide (COG)

Course Title: **MAT 100 Intermediate Algebra**   **Date: May 2013**

Course Team: **Math Faculty**

Expected Learning Outcomes

STUDENT LEARNING 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, spatial reasoning, as well as geometric properties and strategies to mode and solve problems. (Geometric Skills)

3. Use technology, where appropriate, to enhance and facilitate mathematical understanding, as well as to 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)

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

All MAT 100 students complete the same homework, quizzes, and tests. We use MyMathLab to run the course and all instructors are using the same assignments. Additionally, all students take a five question pre-test and take the same five questions as a post-test. The post-test is incorporated into the final exam.

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

We are using a 2-point rubric to grade the five question pre/post-test and all of the other tests in the course.

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

The pre-test and post-test results were recorded via an Excel file sent to each instructor. The process analyzed the MAT 100 SLOA data from the Fall 2012 data to Spring 2013 data from the results of the pre-test and post-test scores.

The posttest was the assessment data we analyzed. The posttest showed the results of the SLOA Learning outcomes. Question 1 meets SLOA 1; Question 2 meets SLOA 1; Question 3 meets SLOA 1 and 4; Question 4 meets SLOA 3; Question 5 meets SLOA 1, 2, 3, and 4.

When comparing the results calculated from Excel files of pretest to the posttest, it shows the student has gained a large amount of mathematical knowledge.

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

Changes were made within the curriculum from the Spring 2012 data by rearranging some of the topics within MAT 099 and MAT 100 in Fall 2012 and continued in Spring 2013. The pretest was edited and followed the Learning Outcomes.

To meet objective 5, we will be sure to assess group projects. A rubric will be created.

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

N/A

Attachments:
      1.) Pre/Post Test
      2.) Rubrics
      3.) Pretest Scores
      4.) Posttest Scores

Attachment 1

1. _____   Find the equation of a line containing the point (8, 5)

and perpendicular to the line $2x + 3y = 7$
Put your answer in the y = mx + b form

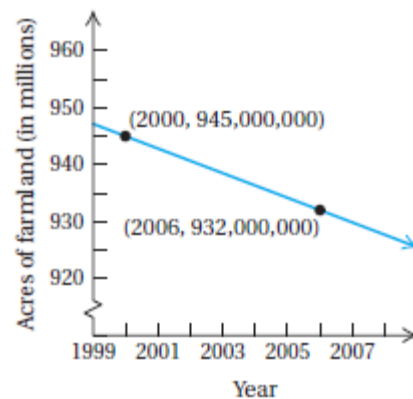2. _____   Solve the system of equations $\begin{cases} 2x + 3y = 11 \\ 4x - 5y = -11 \end{cases}$
Write your answer as an ordered pair

3. _____

The amount of farmland in the US, in the millions of acres, is represented in the following graph. Find the rate of change (slope) of the number of acres with respect to time.
Round to the nearest ten thousand

Acres of farmland (in millions)

960

950

(2000, 945,000,000)

940

930   (2006, 932,000,000)

920

1999 2001 2003 2005 2007

Year

SOURCE: U.S. Department of Agriculture

4. _____
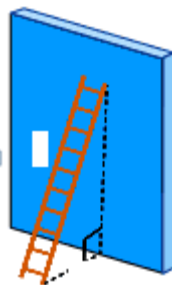
Solve using the Quadratic Formula.
$11x^2 - 9x = 1$

5. _____

A 26-foot ladder is placed against a vertical wall, with the bottom of the ladder standing on level ground 10 feet from the base of the building. How high up the wall does the ladder reach?
Use the Pythagorean Theorem

2012/2013

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.

All questions are worth 2 points.

2 points	Answer is completely correct, including any necessary units.
1.5 points	Work is approximately 75% correct. Examples include: • missing a negative • missing units • simple arithmetic errors (unless arithmetic is what is being tested.)
1 point	Work is approximately 50%-75% correct.
0.5 point	Work is approximately 25%-50% correct AND some basic understanding of the problem is demonstrated.
0 points	Work is roughly less than 25% correct OR no basic understanding is demonstrated.