Clovis Community College
Core Competencies Assessment 2011-2012—Area II: Mathematics—Algebra
Class: Math 110 College Algebra **Faculty: Mary Caffey and Mary Beth Williams**
Common Core No.: Math 1113

Competencies (Learning Outcomes Being Measured)	**Assessment Procedures** (Process/Instrument named or described – rubric attached)	**Assessment Results**	**How Results Will Be Used To Make Improvements**	**(Optional)** Recommendations/Goals/ Priorities
1. Students will graph functions Students should: a. Sketch the graphs of linear, higher-order polynomial, rational, absolute value, exponential, logarithmic, and radical functions. b. Sketch a graph using point plotting and analysis techniques, including basic transformations of functions such as horizontal and vertical shifts, reflections, stretches, and compressions. c. Determine the vertex, axis of symmetry, maximum or minimum, and intercepts of a quadratic equation.	The course objectives are distributed to instructors and students at the beginning of each semester. At the end of the semester students are given a course-wide comprehensive final exam correlated to the objectives. A benchmark of 70% is used to determine whether the competency has been met. Fifty students from two sections of College Algebra were assessed in the Spring 2012 semester. One section was on campus and the other was online. The online section was given a proctored online free-response version of the final exam while the campus section was given a multiple-choice version. Both versions were correlated to the objectives of the course.	The course-wide average on the final exam was 68%. The course-wide average of the nine objectives measured for Competency 1 was 66% with three of the nine objectives being met. The average for Competency 1a and 1b was 67% and for Competency 1c, 56%.	Added worksheets and videos will be developed for the online section on the following concepts: Average Rate of Change (Obj. 4a), solving third degree or higher equations (CCC objective), determining the inverse of a function (Obj. 3c), and finding the center and radius of a circle that is given in general form (CCC objective). The campus section will focus on improving assessment results for the following competencies: Competency 1: Incorporate more hands-on activities and assignments, such as worksheets, rather than just using the homework software. Competency 2: Students struggled with the logarithm and system of equations concepts. The homework is sufficient so more examples will be incorporated during those particular lectures. Competency 3: Areas that need improvement are finding the	It is encouraged that individual classroom assessment results be reviewed with instructors and that instructors utilize each other as resources to improve the performance of students enrolled in College Algebra. Accountability and communication within the assessment feedback loop would improve the outcomes in the course. We will continue to provide the following services to enhance the learning of students enrolled in College Algebra: out-of-class testing so that class time can be utilized more effectively, the Math Learning Center for individual tutoring, use of MyMathLab for homework and/or supplemental instruction/tutorial, and use of Smarthinking for additional tutorial opportunities. Comments: After making progress in meeting the benchmarks over three assessment cycles (two of four competencies met in 2010 and three of four in 2011), the course

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			inverse of a function and calculating the difference quotient. Some hands-on activities will be incorporated so that students see more visual representations of inverse functions and their applications. The formula for finding the difference quotient will be emphasized more. Competency 4: For both the compound interest and exponential growth concepts, students seemed to set the problem up correctly but had computational/order of operations issues while using their calculators. The document camera will be used to show how to correctly input values into the calculator and a review of order of operations will be incorporated into lectures on these topics. A review quiz will be used to help jog memories on such topics as variation.	as a whole met only one competency, Competency 3 (72%), in 2012. The course assessment did, however, show improvement on Competency 4 which was a stated goal from the 2011 assessment. We also made improvements in other areas such as Competency 1c and Competency 2a. The online section of College Algebra met or exceeded the 70% benchmark on all four competencies.

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2. Students will solve various kinds of equations. Students should: a. Solve quadratic equations using factoring, completing the squares, the square root method, and quadratic formula. b. Solve exponential and logarithmic equations. c. Solve systems of two or three linear equations.		The course-wide average of the seven objectives assessed for Competency 2 was 67% with three of the seven objectives being met. The average for Competency 2a was 90%, for Competency 2b 75% and for Competency 2c 71%. The department also includes three additional objectives for finding the standard form of a circle and stating the center and radius (59%), solving equations using inverse operations for powers/roots (56%), and solving third degree and higher equations (40%). The averages for the additional objectives are reflected in the course-wide average for this competency.		
3. Students will demonstrate the use of function notation and perform operations on functions. Students should: a. Find the value of a function for a given domain value. b. Add, subtract, multiply, divide and compose functions. c. Determine the inverse of a function. d. Compute the difference quotient for a function.		The course-wide average of the ten objectives assessed for Competency 3 was 72% with seven of the ten objectives being met. The average for Competency 3a was 81%, for Competency 3b the average was 77%, for Competency 3c the average was 50%, for Competency 3d the average was 61% and for Competency 3e, 75%.		

All class assessment forms are due to your division chair by July 1.

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e. Correctly use function notation and vocabulary related to functions, i.e. domain, range, independent variable, of, even symmetry, etc.				
4. Students will model/solve real-world problems. Students should: a. Use and understand slope as a rate of change. b. Use equations and systems of equations to solve application problems. c. Apply knowledge of functions to solve specific application problems. d. Solve compound interest problems. e. Solve application problems involving maximization or minimization of a quadratic function. f. Solve exponential growth and decay problems. End – Area II - Algebra		The overall average of the eight objectives used to measure Competency 4 was 67% with three of the eight objectives being met. The overall average for Competency 4a was 52%, for Competency 4b the average was 68%, for Competency 4c the average was 65%, for Competency 4d the average was 68%, for Competency 4e the average was 69% and for Competency 4f the average was 77%.		

Faculty Member Completing Assessment: **MARY CAFFEY** _____ **JUNE 13, 2012** _____ **769-2496**_____
Name ***Date*** ***Phone Number***

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Clovis Community College

Core Competencies Assessment 2011-2012—Area II: Mathematics—Other College-Level Mathematics

Class: Math 113 Math for General Education **Faculty: Mrs. VK Bussen**

Common Core No.: (Math for Gen Ed)

Competencies (Learning Outcomes Being Measured)	**Assessment Procedures** (Process/Instrument named or described – rubric attached)	**Assessment Results** **N = 47**	**How Results Will Be Used To Make Improvements**	**(Optional)** Recommendations/Goals/ Priorities
1. Students will display, analyze, and interpret data. Students should: a. Discriminate among different types of data displays for the most effective presentation. b. Draw conclusions from the data presented. c. Analyze the implication of the conclusion to real life situations.	Students were assessed from questions on an objective based test. (Stats and Normal Curve/Test #3)	The class average for this competency on the exam was 79.75% with a median of 84.1. Scores revealed that application and basic procedures in statistics were the highest along with reading all types of graphs. The scores improved in all areas from last year's results.	One year ago assignments, videos and animated instruction were revised and set as prerequisites before HW could be opened. Since improvement was shown, no changes will be made.	Maintain prerequisite instruction before students are allowed to open and move forward on HW and quizzes.
2. Students will demonstrate knowledge of problem-solving strategies. Students should: a. For a given problem, gather and organize relevant information. b. Choose an effective strategy to solve the problem c. Express and reflect on the reasonableness of the solution to the problem.	Students were assessed from questions on two objective based tests. (Conversions, geometry, Logic/ Test #1 & #2)	This competency had a class average of 71.9% which is nearly the same as last year. Separately, the class average on the exam over logic and geometry was 75.9% . The class average on the exam over conversions slightly improved from last year to 67.9%.	No changes planned.	Maintain prerequisite instruction before students are allowed to open and move forward on HW and quizzes.

Competencies (Learning Outcomes Being Measured)	**Assessment Procedures** (Process/Instrument named or described – rubric attached)	**Assessment Results** N = 47	**How Results Will Be Used To Make Improvements**	**(Optional)** Recommendations/Goals/ Priorities
3. Students will construct valid mathematical explanations. Students should: Use mathematics to model and explain real life problems.	Students were assessed from questions on an objective based test. (Economics, money management, etc. /test #4)	The class average for this competency on the exam over mathematical modeling was 66.6% which is nearly the same as last year.	Additional lessons will be provided through the textbook, videos and animated instruction will be used.	Maintain prerequisite instruction before students are allowed to open and move forward on HW and quizzes.
4. Students will display an understanding of the development of mathematics. Students should: Recognize that math has evolved over centuries and that our current body of knowledge has been built upon contributions of many people and cultures over time.	Students were assessed from a rubric based written assignments. (attached)	The class average on the written assignment was 62.3% slightly improved. The class average on students who turned in the report was 84.4%.	The reports will be weighted more heavily toward the overall grade. Reports will be peer reviewed and posted for discussions on Canvas.	In addition to the written reports, discussion boards will be required for a grade.
5. Students will demonstrate an appreciation for the extent, application, and beauty of mathematics. Students should: Recognize the inherent value of mathematical concepts, their connection to structures in nature, and their implications for everyday life. End – Area II Other Math	Students were assessed from questions on an objective based test and from a rubric based written assignment. (Fractals & art/test #2; report #2)	The class average for this competency stayed consistent with a 68%. The class average on the written assignment 68%. Again, the class average on students who turned in the report was 85%.	Revised textbook assignments along with revised video and animated instruction will be used. The reports will be weighted more heavily toward the overall grade. Reports will be peer reviewed and posted for discussions on Canvas	In addition to the written reports, discussion boards will be required for a grade.

Faculty Member Completing Assessment: VK Bussen _____ June 28, 2012 _____ 575-769-4963_____
Name *Date* *Phone Number*

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Written Assignment Rubric for Math 113 (Bussen)
Student Name:

Criteria (points possible)	Earned Points	
Topic approved Date:_____		**TOTAL: 50 to 45 A 40 B 35 C 30 D 29 & Below F**
Format & Layout (10) 1" margins Indent paragraphs 5 spaces Double Space 12-size font Header Title Page (as shown on sample handout) (2) First Page Layout (3) No plastic covers Staple paper, left top corner		
Body (35) 3.5 pages minimum (-2 per missing page up to -6) No excessive spelling & grammar errors (5) Math topic (15) (specifics attached on sample handout) Personal reflections included (10)		NOTES:
Reference pages (5) As shown on handout (3) Cite references in paper (2)		

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