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Course Outcomes Guide (COG)
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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 103 Finite Mathematics   Date: August 2012

Course Team: Paula Kessler

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, 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)

COURSE CONTENT OBJECTIVES:

Numbers listed in trailing parentheses reference Mathematics Program Outcomes/Student Learning Outcomes. Outcome # 7 promotes student success and empowers professional growth of HCC graduates; therefore it is incorporated and emphasized throughout this course.

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

1. calculate the slope of a line, derive the equation of a line given a point on the line and the slope, and graph a linear equation

2. construct a linear mathematical model for a given real life application, and interpret the meaning of the slope and y-intercept

3. perform operations with matrices, and solve systems of equations using matrices solve systems of equations using Cramer's Rule

4. graph the solution set for two or more linear inequalities in two unknowns

5. construct the constraints and the objective function for a linear programming problem from everyday life, solve using the graphical method, and interpret the solution

6. count the number of possible outcomes for a given application using the fundamental principle of counting, permutations, and combinations

7. apply the definitions of dependant and independent events, mutually exclusive events, sample space, and probability to solving real world problems involving chance

8. construct mathematical models for real world problems in finance that involve compound interest, annuities, and amortization, solve problems using the model, and interpret the solution.

9. use the simplex method to solve maximum and minimum linear programming problems from everyday life involving two or more variables, and interpret the solution.

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

This course ran for the first time in Spring 2011. The class ended with 6 students completing the course. The class was required to complete homework, quizzes, tests as well as a project dealing with purchasing a used car and what option would be the best option given different conditions.

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

The course is running for a second time Fall 2011, so the plan is to use common questions throughout the course that were used during the first implementation.

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

No know results as of now because of times offered and class sizes. We have had to cancel this class in Spring 2012 and Fall 2012 due to low enrollments. We have offered it as a tutorial for a few students in need of the course for transfer.

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

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