

Course Title & Number: MAT*H135 Topics in Contemporary Math

Competency Area: **QUANTITATIVE REASONING** (Goal: Students will learn to recognize, understand, and use the quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions.)

Faculty submitting the Learning Outcomes: Katie Lozo, Jane Wampler, Harry Burt, Ruth Urbina-Lilback

Date: 2/7/13

[Instructions: Please match the Learning Outcomes in the left hand column to those of the course you are submitting for Gen Ed approval. List the corresponding course outcomes in the right hand column to indicate a match.]

BOR TAP's Learning Outcomes	Corresponding Outcomes for Course Named Above
1. Represent mathematical and quantitative information symbolically, graphically, numerically, and verbally.	6. Illustrate the variety of ways in which sets are denoted. 8. Apply and <i>interpret</i> Venn diagrams when solving applications involving two or more sets.
2. Apply quantitative methods to investigate routine and novel problems. This includes calculations/procedures, mathematical and/or statistical modeling, prediction, and evaluation.	10. Apply the appropriate formula to determine the range and standard deviation when analyzing a set of data. 11. Use the formulas to calculate interest rates in credit cards and other consumer credit and understand the hidden cost of consumer credit. 12. Calculate simple and compound interest. 13. Use the APR and APY formulas for calculating payments, refunds and interest.
3. Interpret mathematical and quantitative information and draw logical inferences from representations such as formulas, equations, graphs, tables, and schematics.	8. Apply and <i>interpret</i> Venn diagrams when solving applications involving two or more sets. 9. Apply and calculate the measures of central tendency using the appropriate formula for calculating mean, median, and mode. 10. Apply the appropriate formula to determine the range and standard deviation when analyzing a set of data. 11. Use the formulas to calculate interest rates in credit cards and other consumer credit and understand the hidden cost of consumer credit. 12. Calculate simple and compound interest. 13. Use the APR and APY formulas for calculating payments, refunds and interest.

<p>4. Evaluate the results obtained from quantitative methods for accuracy and/or reasonableness.</p>	<p>Evaluate the results obtained from quantitative methods for accuracy and/or reasonableness.</p>
	<p><i>Additional Outcomes</i></p> <ol style="list-style-type: none"> 1. Know the number system development (natural numbers, integers, rational numbers, irrational numbers, and real numbers) 2. Add, subtract, multiply and divide any two numbers using whole numbers, integers, rational numbers and all real numbers. 3. Recognize and apply the various properties of addition and multiplication including commutative, associative, additive inverse, and multiplicative inverse properties. 4. Determine if a number is prime or composite, and write the prime factorization of a composite number. 5. Calculate the least common multiple of two or more numbers. 7. Apply the appropriate set operations including union, intersection, complement, and set difference when solving problems involving sets. 14. Convert units within the metric system and between the standard and metric systems.