I. **Course Number and Title:**

MAT007 Algebra I

II. **Catalog Description:**

Introduction to basic concepts of algebra. Equivalent to first-year high school algebra. Topics include language of algebra, order of operations, signed numbers, linear equations, simultaneous equations, factoring, solving quadratic equations by factoring, application of algebra to selected verbal problems. Does not fulfill requirements for any degree or certificate. Graded on an SA-SB-SC-R-U-W basis. A-E-G / 4 cr. hrs.

III. **Learning Outcomes:** (Main concepts, principles, and skills you want students to learn from this course) The Learning Outcomes listed here should be considered the minimum core outcomes for the course. Many other learning outcomes may also be a part of the learning experience within the course.

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

1. Demonstrate an understanding of the use of variables as representatives of real numbers, the use of the order of operations to evaluate algebraic expressions, and the meaning of terms, expressions, and factors;
2. Demonstrate an understanding of the arithmetic properties of real numbers (associative, commutative, identities, inverses, and distributive properties) and be able to apply these properties in manipulating algebraic equations;
3. Solve linear equations and inequalities in one variable and apply these techniques to simple models;
4. Solve systems of linear equations in two variables using the techniques of graphing lines, algebraic substitution method, and the algebraic elimination method, and apply these techniques to simple models; moreover, the methods of graphing a line should be done using table of values, intercepts, and incorporating the slope of the line;
5. Perform polynomial addition, subtraction, multiplication, division by a monomial, and factoring; polynomial equations that can be factored, should be solved and these techniques applied to simple models;
6. Simplify and perform basic operations on rational expressions; moreover, be able to solve rational equations using factoring techniques and apply these techniques to simple models;
7. Demonstrate an understanding of radicals and simplify expressions involving radicals.

*These statements must appear verbatim in course outlines. However, additional outcomes may be added to individual course outlines at the instructor’s discretion.

Revised 1/10
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