COMMON COURSE OUTLINE: Course discipline/number/title: MATH 0098: Elementary Algebra

A. CATALOG DESCRIPTION
1. Credits: 4
2. Hours/Week: 4
3. Prerequisites (Course discipline/number): Appropriate placement test score or successful completion of MATH 0093, with a grade of C or higher.
4. Co-requisites (Course discipline/number): None
5. MnTC Goals (if any): NA

This course is designed to provide the fundamentals of algebra using the set of rational numbers. It includes algebraic expressions, polynomials (including factoring), integer exponents, and equations and linear inequalities (one and two variables). The successful completion of this course prepares the student for intermediate algebra.

B. DATE LAST REVISED (Month, year): June, 2014

C. OUTLINE OF MAJOR CONTENT AREAS:
1. Algebraic expressions
2. Equations and inequalities (both in one and two variables)
3. Graphs of linear equations (two variables) and linear inequalities (one and two variables)
4. Two variable systems of linear equations and inequalities
5. Polynomial expressions and equations
6. Integer exponents
7. Scientific notation
8. Rational expressions and equations
9. Quadratic expressions and equations

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Solve multi-step linear equations and inequalities in one variable.
2. Find the slope of a line (graphically, applying the slope formula, and identifying from an equation).
3. Graph linear equations and linear inequalities in two variables.
4. Apply formulas (slope-intercept, point-slope) to find the equation of a line, including parallel and perpendicular lines.
5. Evaluate polynomial and rational expressions containing radicals and absolute values.
6. Multiply and divide using scientific notation.
7. Add, subtract, multiply, divide and simplify polynomial expressions.
8. Factor polynomials completely (greatest common factor, trial-and-error method and/or AC method, grouping, difference of squares, perfect square trinomials, sum/difference of two cubes).
9. Solve quadratic equations by factoring.
10. Solve systems of linear equations in two variables (by graphing, substitution, and addition/elimination methods).
11. Solve systems of linear inequalities in two variables by graphing.
12. Solve literal equations or formulas for a specified variable.
13. Add, subtract, multiply, divide, and simplify rational expressions.
15. Apply problem-solving techniques to contextual problems (types selected from: number, geometry, uniform motion, mixture, value, investment, and work problems).
16. Solve quadratic equations by the square root property and the quadratic formula.
17. Apply the Pythagorean Theorem to solve problem.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
1. Tests
2. Quizzes
3. Homework
F. METHODS FOR EVALUATION OF STUDENT LEARNING: Continued. . .
4. Cooperative group work
5. Writing assignments
6. Activities/Portfolios/Projects

G. RCTC CORE OUTCOME(S) Addressed:
   ☒ Communication
   ☐ Civic Responsibility
   ☒ Critical Thinking
   ☐ Personal/Professional Accountability
   ☐ Global Awareness/Diversity
   ☐ Aesthetic Response

H. SPECIAL INFORMATION (if any): None