Course discipline/number/title: MATH 0098: Elementary Algebra

A. **CATALOG DESCRIPTION**
   1. Credits: 4
   2. Hours/Week: 4
   3. Prerequisites (Course discipline/number): MATH 0093
   4. Other requirements: Successful completion of prerequisite courses with a grade of C or higher
   5. MnTC Goals (if any): NA

B. **COURSE DESCRIPTION:** This course is designed to develop the fundamental algebra skills and problem-solving techniques needed to solve multi-step algebraic problems within the set of real numbers. The algebraic fundamentals include working with algebraic expressions, polynomials, linear inequalities in one variable, and linear equations in one and two variables. The successful completion of this course prepares the student for Intermediate Algebra or Contemporary Concepts in Mathematics. Reading skills as demonstrated by completion of READ 0800 or equivalent placement score.

C. **DATE LAST REVISED (Month, year):** February, 2020

D. **OUTLINE OF MAJOR CONTENT AREAS:**
   1. Algebraic expressions, equations, and inequalities
   2. Linear Equations
   3. Polynomial expressions
   4. Quantitative Reasoning

E. **LEARNING OUTCOMES (GENERAL):** The student will be able to:
   1. Apply algebraic expression, equation and inequality concepts.
      a) Simplify and evaluate algebraic expressions by using order of operations and associative, commutative, and distributive properties
      b) Solve multi-step linear equations and inequalities in one variable.
   2. Apply linear equation concepts.
      a) Calculate and interpret a constant rate of change (slope) as given by a symbolic, graphical, or numerical representation.
      b) Graph linear equations two variables.
      c) Apply linear models to solve problems by translating between tables, graphs, words, and equations.
      d) Classify relationships as linear or nonlinear.
   3. Apply polynomial concepts.
      a) Perform operations (add, subtract, and multiply) polynomial expressions.
      b) Identify common factors within terms of polynomials and factor polynomials using the greatest common factor.
   4. Apply problem-solving techniques to contextual problems.
      a) Read, interpret, and make conclusions about data that is summarized in a table or a graphical display.
      b) Identify key graph features and interpret in context.
      c) Apply appropriate formulas to solve problems involving perimeter, area, and volume.
      d) Represent solutions with appropriate units.
      e) Convert among units of measurements.
      f) Model and solve applied problems involving both linear and nonlinear relationships
      g) Analyze, represent, and solve involving percentages and proportional relationships.
      h) Multiply and divide using scientific notation.
      i) Solve literal equations and formulas for specified variables.

F. **LEARNING OUTCOMES (MNTC):** NA

G. **METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include but are not limited to:
   1. Exams
   2. Homework

G. METHODS FOR EVALUATION OF STUDENT LEARNING: Methods may include but are not limited to: Continued. . .
3. Quizzes
4. Projects
5. Comprehensive Final Exam

H. RCTC CORE OUTCOME(S). This course contributes to meeting the following RCTC Core Outcome(s): Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

I. SPECIAL INFORMATION (if any): None