

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: MTH 103

Credits: 3

Course Title: Applied Technical Mathematics I

Course Description (including lecture hours, lab hours, total contacts)

Presents a review of arithmetic and elements of algebra. (Geometry and trigonometry are covered in MTH 104.) Directs applications to specialty areas. Prerequisites: a placement recommendation for MTH 103 and one unit of high school mathematics or equivalent. Lecture 3 hours per week.

General Course Purpose

The purpose of this course is to review basic concepts of arithmetic and algebra and apply these skills and concepts in both technical and vocational areas. Problem solving is an underlying theme.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

MTH 103 requires a placement recommendation for MTH 103 (level 2) and one unit of high school mathematics or equivalent.

Course Objectives

Upon completing the course, the student will be able to:

- a. Determine and use basic operations involving whole numbers and decimals.
- b. Perform indicated arithmetic operations with integers.
- c. Perform basic operations with fractions and percents.
- d. Add, subtract, multiply, and divide fractions and write answers in lowest terms.
- e. Use problem solving techniques with percents.
- f. Determine equivalent systems of measurements.
- g. Find areas and perimeters of squares, rectangles, and parallelograms.
- h. Find areas and circumferences of circles.
- i. Interpret and analyze statistical data involving the circle, bar, and line graphs, frequency distributions, histograms, and frequency polygons.
- j. Write symbolic representations for rational and real numbers including variable and function notations.
- k. Solve linear equations and equations with fractions and decimals.
- l. Use the laws of exponents to perform basic operations with algebraic expressions containing powers.
- m. Change and interpret problems involving powers of 10 and scientific notation.
- n. Use applications for specialty areas to apply and solve career-related problems.
- o. Evaluate formulas and solve application problems involving formulas.
- p. Find products and use given methods of factoring where applicable.

Major Topics to be Included

- a. Whole Numbers and Decimals

- b. Integers
- c. Fractions and Percents
- d. Problem Solving with Percents
- e. Direct Measurement
- f. Area and Perimeter
- g. Interpreting and Analyzing Data
- h. Symbolic Representation
- i. Linear Equations
- j. Equations with Fractions and Decimals
- k. Powers
- l. Formulas and Applications
- m. Products and Factors

Effective Date of Course Content Summary (Month, Date Year): Fall 2007