

J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: MTH 121

Credits: 3

Course Title: Fundamentals of Mathematics I

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

Covers concepts of numbers, fundamental operations with numbers, formulas and equations, measurement, and geometry, graphical analysis, binary numbers, Boolean and matrix algebra, linear programming, and elementary concepts of statistics. Emphasizes mathematical problem solving, use of technology, and the language of mathematics. Lecture 3 hours per week.

General Course Purpose

The purpose of this course is to strengthen mathematical problem solving skills enhanced by the use of technology, and become fluent in mathematical language. Intended for occupational/technical programs.

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

MTH 121 requires placement into MTH 121 and one unit of high school mathematics or equivalent.

Course Objectives (Each item should complete the following sentence.)

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

- a. Demonstrate an understanding of the decimal number system and compute, estimate, and solve problems involving whole numbers, fractions, decimals, percents, and integers.
- b. Simplify expressions including exponents by using order of operation rules.
- c. Use formulas, equations, and proportions to solve real life problems.
- d. Analyze tables and graphs, including line, bar, circle, and histogram graphs.
- e. Estimate and use actual measuring devices with metric and U. S. Customary units to measure length, liquid volume, and weight/mass.
- f. Classify, draw, and construct plane figures and solid figures.
- g. Differentiate between area, perimeter (or circumference), and volume and be able to compute the area and the perimeter of simple geometric figures.
- h. Collect, organize, and display a set of numerical data in a variety of forms using bar graphs, tables, stem-and-leaf plots, and box-and –whisker plots.
- i. Compute the mean, median, and mode of a set of data.

Major Topics to be Included

- a. Number sense including computation and estimation
- b. Formulas, equations, and graphical analysis
- c. Geometry and measurement
- d. Elementary concepts of statistics

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