

**ST. PETERSBURG COLLEGE**  
**APPROVED COURSE OUTLINE**

<u>MAT</u>	<u>0024</u>	<u>ELEMENTARY ALGEBRA</u>	<u>3</u>
Prefix	Number	Course Title	Cr.Hrs.

A. Course Description:

Prerequisite: MAT 0012 or appropriate score on the mathematics placement test. This course is a study of the basic skills and concepts of elementary algebra from the view of a college student who needs an understanding of basic algebra. Major topics include language and operations on sets, operations on signed numbers, simple linear equations and inequalities in one variable, operations on polynomials (including beginning techniques of factoring), integer exponents, brief introduction to radicals, introduction to graphing, and applications. 47 or 77 contact hours based on credit hours of class.

B. Major Learning Outcomes:

1. The student will demonstrate knowledge of algebraic concepts, properties and terminology when working with the real number system.
2. The student will demonstrate mastery of algebraic algorithms relative to subsets of the real numbers, numerical expressions, algebraic expressions, linear equations and inequalities, quadratic equations and graphing of linear equations by applying the necessary algebraic manipulations.

C. Course Objectives Stated in Performance Terms:

1. The student will demonstrate knowledge of algebraic concepts, properties and terminology when working with the real number system by:
  - a. using precise mathematical language.
  - b. recognizing algebraic expressions, like terms, numerical coefficients and polynomials.
  - c. developing the real number system using sets, introducing irrationals with the radical symbol and integer exponents.
2. The student will demonstrate mastery of algebraic algorithms relative to subsets of the real numbers, numerical expressions, algebraic expressions, linear equations and inequalities, quadratic equations and graphing of linear equations by applying the necessary algebraic manipulations by:
  - a. applying the order of operations agreement to computations, including multiple grouping symbols.

- b. using algebraic expressions, like terms, numerical coefficients and polynomials.
- c. defining and/or recognizing the solution of linear equations in one variable involving rational numbers.
- d. solving, graph (on a number line) and checking the solutions of linear equations in one variable involving rational numbers.
- e. determining if a linear equation in one variable is a conditional equation, an identity or has no solution.
- f. solving literal equations.
- g. translating real world problems into linear equations and solve.
- h. applying the rules of exponents to algebraic expressions involving integer exponents.
- i. using scientific notation in calculations involving very large or very small measurements.
- j. solving and/or graphing (on a number line) simple linear inequalities in one variable by applying the properties of inequalities.
- k. performing beginning techniques of factoring and other operations on polynomials including simple quadratics.
- l. solving equations by factoring.
- m. calculating the slope of the line passing through two given points.
- n. graphing linear equations in two variables by plotting points, by the intercept method and by the slope-intercept method.
- o. simplifying, multiplying and dividing rational expressions.

D. Criteria Performance Standard:

In order to earn a grade of C or better, the student will achieve at the 70% level or higher on classroom measures.

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