

ST. PETERSBURG COLLEGE
APPROVED COURSE OUTLINE

<u>MAT</u>	<u>0012</u>	<u>PRE-ALGEBRA</u>	<u>3</u>
Prefix	Number	Course Title	Cr.Hrs.

A. Course Description:

This course is a study of the basic skills and concepts of pre-algebra from the point of view of the college student who needs an understanding of pre-algebra. Major topics include operations with integers, fractions, decimals, percents, geometric figures and their measures, and pre-algebra topics including simplification of polynomials and equation solving techniques. 47 contact hours.

B. Major Learning Outcomes:

1. The student will demonstrate knowledge of mathematical concepts, properties and terminology when working with rational numbers.
2. The student will demonstrate an understanding of algorithmic processes and concepts by performing basic algebraic manipulations, solving equations, interpreting results and graphing on a number line.

C. Course Objectives Stated in Performance Terms:

1. The student will demonstrate knowledge of mathematical concepts, properties and terminology when working with rational numbers by:
 - a. using precise mathematical language.
 - b. solving word problems using operations involving rational numbers, rounding where appropriate.
 - c. making conversions among fractions, decimals, and percents.
 - d. distinguishing between linear, square and cubic measures.
 - e. determining the perimeter/circumference of geometric figures including polygons, circles and composite figures.
 - f. determining the area of geometric figures including polygons, circles, and composite figures.
 - g. determining the volume of rectangular solids and right circular cylinders.
 - h. using the common metric prefixes to convert from one metric unit to another.
 - i. selecting an appropriate metric unit of measurement given a specific situation.
 - j. giving a reasonable estimate when provided with a real world situation.
2. The student will demonstrate an understanding of algorithmic processes and concepts by performing basic algebraic manipulations, solving equations, interpreting results and graphing on a number line by:

- a. applying the order of operations including parentheses and exponents to simplify expressions.
- b. evaluating mathematical formulas by substituting rational numbers into assigned variables.
- c. simplifying collection of like terms.
- d. solving and checking the solution(s) of linear equations in one variable involving rational numbers.
- e. graphing simple linear inequalities such as $x < a$ or $x > b$ on a number line.
- f. solving word problems involving percentages.
- g. writing and solving ratio and proportion word problems.

D. Criteria Performance Standard:

Upon successful completion of the course the student will, with a minimum of 70% accuracy, demonstrate mastery of each of the above stated objectives through classroom measures developed by individual course instructors.

Revised 8/2/83	Effective Session 19891	DBT 11/21/95; C&I 10/10/95
Revised 8/84	SCN Change 9/89	Effective Session 19961
DBT 6/24/85	Effective Session 19901	C&I 4/30/96; DBT 5/21/96
Effective Session 19841	DBT 11/17/93	Effective Session 19961
SCN change 1/17/86	Effective Session 19932	C & I 11/25/97; DBT 12/15/97
Effective Session 19871	3 YR C&I Review 1993-94	Effective Session 19981
DBT 7/26/89		