

ST. PETERSBURG COLLEGE
APPROVED COURSE OUTLINE

<u>MAC</u>	<u>1105</u>	<u>COLLEGE ALGEBRA</u>	<u>3</u>
Prefix	Number	Course Title	Cr.Hrs.

A. Course Description:

Prerequisite: MAT 1033 or appropriate score on the mathematics placement test. Major topics include: functions and functional notation; domains and ranges of functions; graphs of functions and relations; operations on functions; inverse functions; linear, quadratic and rational functions; absolute value and radical functions; exponential and logarithmic properties, functions and equations; systems of equations and inequalities; applications such as curve fitting, modeling, optimization, exponential and logarithmic growth and decay. This course is also offered online. 47 contact hours.

B. Major Learning Outcomes:

1. The student will demonstrate knowledge of fundamental concepts of algebra when determining characteristics and properties of relations and functions and performing processes.
2. The student will demonstrate the ability to solve and graph a variety of equations and inequalities, relations and functions.
3. The student will demonstrate understanding of the concepts of this course.

C. Course Objectives Stated in Performance Terms:

1. The student will demonstrate knowledge of the fundamental concepts of algebra when determining characteristics and properties of relations and functions and performing processes by:
 - a. communicating using precise mathematical language.
 - b. determining whether a relation is a function.
 - c. determining the domain and range of given functions (linear, quadratic, rational, absolute value, radical, exponential and logarithmic).
 - d. performing operations of given functions.
 - e. determining the inverse of given functions.
 - f. graphing given functions and relations.
2. The student will demonstrate the ability to solve and graph a variety of equations, inequalities, relations and functions by:
 - a. solving real world problems that require the use of quadratic equations and inequalities.
 - b. solving and graphing absolute value equations and inequalities.

- c. solving and graphing exponential and logarithmic equations using properties.
 - d. solving and graphing systems of equations and inequalities.
3. The student will demonstrate understanding of the concepts of this course by applying knowledge of given functions to real world problems such as curve fitting, modeling, optimization, exponential and logarithmic growth and decay.

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 6/30/83
Revised 8/84
SCN change 1/17/86
Effective Session 19871
DBT 5/23/91
Effective Session 19911
3 YR C&I Review 8/94
DBT 11/21/95
Effective Session 19953
C&I 4/16/96
Effective Session 19961
C & I 11/25/97; DBT 12/15/97
Effective Session 19981
Effective Session 20001 Online added