# 1/3/2023

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 February 2023

Term and Year of Implementation: Spring 2023

**Course Title:** College Algebra

**BRCC Course Rubric:** MATH 1213

**Previous Course Rubric**: MATH 110

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 3-0-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 45-0-45

**Louisiana Common Course Number:** CMAT 1213

**CIP Code:** 27.0101

**Course Description:** Introduces quadratic equations, systems of linear equations, inequalities, functions, graphs, exponential and logarithmic functions, complex numbers, and theory of equations. The required calculator is either the TI-30XIIS or TI-30XIIB calculator. Credit cannot be received for both this course and MATH 1113 (MATH 101).

**Prerequisites:** Appropriate mathematics placement test score

**Co-requisites:** None

**Suggested Enrollment Cap:** 35

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Analyze problems related to the fields of science, technology, engineering, and mathematics (STEM), business, and social science using mathematical strategies and principles.

2. Apply properties of algebra to evaluate functions, graphs, circles and other algebraic concepts.

**General Education Learning Outcome(s):** This course supports the development of competency in the following area(s). Students will:

Use processes and models to solve quantitative problems. (General Education Competency in Quantitative and Symbolic Reasoning)

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Instructor-created exams and homework.

2. Comprehensive departmental final exam.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Equations and Inequalities

A. The Rectangular Coordinate System and Graphs

B. Graphs of Equations

C. Linear Equations in One Variables

D. Modeling with Linear Equations

E. Quadratic Equations and Applications

F. Complex Numbers

G. Linear Inequalities in One Variable

H. Other Types of Equations

II. Functions and Their Graphs

A. Linear Equations in Two Variables

B. Functions

C. Analyzing Graphs of Functions

D. A library of Parent functions

E. Systems of Linear Equations

F. Transformations of Functions

G. Combinations of Functions; Composition of Functions

H. Inverse Functions

III. Polynomial Functions

A. Quadratic Functions and models

B. Polynomial Functions of Higher Degree

C. Polynomial and Synthetic Division

D. Zeros of Polynomial Functions

IV. Rational Functions

A. Rational Functions and Asymptotes

B. Graphs of Rational Functions

V. Exponential and Logarithmic Functions

A. Exponential Functions and Their Graphs

B. Logarithmic Functions and Their Graphs

C. Properties of Logarithms

D. Exponential and Logarithmic Equations

E. Exponential and Logarithmic Models