

**QUEENSBOROUGH COMMUNITY COLLEGE
MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT**

COURSE OUTLINE

MA-119

COLLEGE ALGEBRA

Pre-requisite: MA-010 or exempt from remedial mathematics, or permission of the department.

Hours: 3 Class Hours 1 Recitation Hour 3 Credits

Course Description: A basic presentation of the fundamental concepts of college algebra, systems of linear equations, inequalities, linear, quadratic, exponential and logarithmic functions. During the recitation hour, students review properties of signed numbers, graphing of linear equations, basic geometric concepts, solution of linear equations, factoring algebraic expressions and its applications to rational expressions. A scientific calculator will be required.

Curricula for which the course is required/recommended:

A.S. Liberal Arts and Sciences (Science and Mathematics), A.S. Business Administration, A.A.S. Nursing, A.S. Health Science, A.S. Public Health, A.S. Engineering Science (STEM) Academy, A.S. Criminal Justice Associate degree dual/joint program in Liberal Arts and Sciences and Childhood Education, A.S. Computer Science and Information Security, A.S. Psychology (STEM) Academy

General Education Objectives: Use analytical reasoning skills to identify issues or problems and evaluate evidence in order to make informed decisions; reason quantitatively and mathematically as required in their fields of interest and in everyday life; integrate knowledge and skills in their program of study; use information management and technology skills effectively for academic research and lifelong learning.

Course Objectives/ Expected Student Learning Outcomes: Understand the important concepts and theories of algebraic, geometric, exponential, and logarithmic functions and apply them to solve problems in mathematics, engineering and other disciplines.

Required Text: The following OER (Open Educational Resource) textbook will be used:

College Algebra through Problem Solving (2021 Edition)

https://academicworks.cuny.edu/qb_oers/178/

*This is a zero cost textbook. It is highly recommended that students **download** the textbook for reference throughout the semester.*

Methods by which Student learning will be evaluated:

The general guidelines for assessing grades are as follows:

Examinations, Assignments and Classroom Performance	70%
Final Examination *	30%

* The department uniform final exam must count as at least 30% of the grade

* If the student receives less than a 55 on the uniform final exam, the highest grade the students can achieve in the course is a C-

The distribution may be changed at the discretion of the individual instructor.

Academic Integrity policy: Academic honesty is expected of all students. Any violation of academic integrity is taken extremely seriously. All assignments and projects must be the original work of the student or teammates if applicable. Plagiarism will not be tolerated. Any questions regarding academic integrity should be brought to the attention of the instructor. The following is the Queensborough Community College Policy on Academic Integrity: "It is the official policy of the College that all acts or attempted acts that are violations of Academic Integrity be reported to the Office of Student Affairs. At the faculty member's discretion and with the concurrence of the student or students involved, some cases though reported to the Office of Student Affairs may be resolved within the confines of the course and department. The instructor has the authority to adjust the offender's grade as deemed appropriate, including assigning an F to the assignment or exercise or, in more serious cases, an F to the student for the entire course." Please refer to the college's [Academic Integrity Policy](#).

Disabilities: Any student who feels that he or she may need an accommodation based upon the impact of a disability should contact the office of Services for Students with Disabilities in Science Building, Room S-132, 718-631-6257, to coordinate reasonable accommodations for students with documented disabilities. You can visit the [Services for Students with Disabilities](#) website.

SECTION	TOPICS	HOURS
1	Linear and Absolute Value Equations	2
2	Linear and Compound Inequalities	2
3	Functions	1
4	Linear Functions and Slope	1.5
5	Finding the Equations of Lines	2
6	Solving Systems of Equations Graphically	1
7	Solving Systems of Equations Algebraically	1
8	Integral Exponents	2
9	GCF and Grouping	1.5
10	Factoring Trinomials	2
11	Factoring Special Forms	2
12	Solving Polynomial Equations by Factoring	2
13	Rational Functions (Domain and Algebraic Operations)	2
14	Complex Rational Expressions	1
15	Rational Equations	1.5
16	Literal Equations	1
17	Radical Expressions and Functions	1
18	Rational Exponents	1.5
19	Simplifying Radical Expressions	1.5
20	Rationalizing Denominators	1
21	Radical Equations	1.5
22	Complex Numbers	1.5
23	Completing the Square	1.5
24	The Quadratic Formula	2
25	Graphing Quadratic Functions	2
26	Exponential and Logarithmic Functions	1.5
27	Properties of Logarithms	1.5
28	Exponential and Logarithmic Equations	2
	Exams	6
	Review	6
	Total (including Final Exam Week)	60

The approximate hours per section are guidelines and are at the discretion of the instructor. The instructor is responsible for making assignments and scheduling examinations.

DC/CS 01/2017 REVISED FALL 2019 REVISED FALL 2021