

# College Algebra Syllabus

## General Information

**MAT104 College Algebra:** 4 hours, 3 credits. Rational expressions, integer and rational exponents, quadratic formula, complex numbers, exponential and logarithmic functions, conic sections. Trigonometry. Math Lab attendance may be assigned at the discretion of the instructor.

**Prerequisite:** A passing Math Placement Score and placement by the Department.

**Instructor:** *Your instructor will provide contact information, office hours and meeting times for your section*

## Grading Policy

**Expectations:** Students are expected to learn both the mathematics covered in class and the mathematics in the textbook and other assigned reading. Completing homework is part of the learning experience. Students should review topics from prior courses as needed and, if needed, go to their instructor's office hours, to the Math Lab or to problem sessions regularly.

**Homework:** Approximately two hours of homework will be assigned in each lesson as well as additional review assignments.

**Grades:** Students who do not pass the departmental final will not pass the course. There is no partial credit on the uniform final. Sample finals are available. *The precise grading policy for your section will be distributed by your instructor.*

## Materials, Resources, and Accommodating Disabilities

**Textbook:** Aufmann & Lockwood, *Algebra: Beginning and Intermediate*, Cengage Learning 2<sup>nd</sup> or 3<sup>rd</sup> Edition

**Technology:** Students can use a Scientific Calculator in class and on homework.

*Graphing Calculators are not permitted at all.*

**Tutoring:** Departmental tutoring is available in the Math Lab on the 2nd floor of Gillet Hall.

**Reserve:** Selected books have been placed on reserve in the library.

**Accommodating Disabilities:** Lehman College is committed to providing access to all programs and curricula to all students. Students with disabilities who may need classroom accommodations are encouraged to register with the Office of Student Disability Services. For more info, contact the Office of Student Disability Services, Shuster Hall, Room 238, 718-960-8441.

## Course Objectives

At the end of the course, students will be able to:

1. Graph lines and parabolas. (a,b,c)
2. Solve linear equations/inequalities in one variable. (a,c)
3. Factor, add, subtract, multiply, and divide polynomials. (a,b,c)
4. Evaluate functions or expressions and apply the quadratic formula. (a,b,c)
5. Manipulate formulas involving radicals, exponentials, and logs. (b,e)
6. Compute lengths and angles in triangles using trigonometric functions. (a,b,c)

***These objectives will be assessed on the final exam along with other important techniques.***

## Course Topics

There is flexibility in the order and time allotted to each of the topics below, but all topics must be covered by the instructor and understood by the student. *Section numbers refer to the most RECENT edition of the text; consult with your instructor if you are using an older edition.*

**Lesson 1: Section 2.2.** Distribute syllabus, get names/majors of students, give a pretest, review linear equations.

**Lesson 2: Section 2.3, 2.4, 2.6.** Verbal problems; give an example of each type and include one or more of each in every homework assignment.

**Lesson 3: Section 2.7.** Linear inequalities in one variable.

**Lesson 4: Section 3.2, 3.3, 3.4.** Functions, linear functions, slope of a line.

**Lesson 5: Section 3.5, 3.6.** Graphs of lines, parallel and perpendicular lines.

**Lesson 6: Section 4.2.** Systems of linear equations involving 2 and 3 variables.

**Lesson 7:** Exam I

**Students who fail this exam should consider dropping the course.**

**Please consult with your professor or a math advisor during office hours for more personalized advising.**

**Bring a copy of your exam and completed homework**

**Lesson 8: Section 5.1, 5.2, 5.3.** Addition, subtraction, and multiplication of polynomials.

**Lesson 9: Section 5.4, 5.5.** Integer exponents, scientific notation, division of polynomials.

**Lesson 10: Chapter 6.** Factoring (omit factoring the sum and difference of cubes).

**Lesson 11: Section 7.1, 7.2.** Simplification of and operations with rational expressions.

**Lesson 12: Section 7.3, 7.4.** Complex fractions, rational equations.

**Lesson 13: Section 7.5.** Ratio, proportion, and variation.

**Lesson 14:** Exam II

**Students who fail both exams should probably drop the course.**

**Please consult with your professor or a math advisor for more personalized advising.**

**Bring a copy of your exams and completed homework.**

**Lesson 15: Section 8.1, 8.2.** Rational exponents, radical expressions, operations with radicals.

**Lesson 16: Section 8.4, 8.5.** Solving equations containing radical expressions, complex numbers.

**Lesson 17: Section 9.1.** Solving quadratic equations by factoring or taking square roots.

**Lesson 18: Section 9.2.** Completing the square, using the quadratic formula.

**Lesson 19: Section 9.3, 9.4.** Equations that lead to quadratics/quadratic forms, applications.

**Lesson 20: Section 9.5, 9.6.** Graphs of quadratic functions, max-min problems.

**Lesson 21:** Exam III

**Lesson 22: Section 12.1, 12.2.** Conic Sections (emphasize parabolas and circles).

**Lesson 23: Section 11.1, 11.2.** Exponential and logarithmic functions (mention inverse functions intuitively).

**Lesson 24: Sections 11.3, 11.4.** Graphs of log functions, exponential and logarithmic equations.

**Lesson 25: Section 11.5.** Applications of exponential and logarithmic functions.

**Lesson 26:** Trigonometry of the right triangle.

**Lesson 27:** Applications of trigonometry.

**Lesson 28:** Review for the Final

**Final Exam:** A Uniform Final Exam will be given to all sections of College Algebra during Finals Week covering the entire course especially topics needed in future courses. Students who fail this final will fail the course. Your instructor may also add additional personalized questions for your section to determine grades in the class.

Department of Mathematics and Computer Science, Lehman College, City University of New York

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