**Hunter College**
**of the City University of New York**
**Department of Mathematics and Statistics**

**STUDENT SYLLABUS**
**Math 101 – Algebra for College Students**
**4 Hrs – 3 Credits**
**Fall 2025**

**Section:** 10
**Time:** M/Th 1:30pm-3:20pm
**Room:** North Bldg C004
**Instructor:** Aravindakshan (Appu) Panicker
**Email:** apanick@hunter.cuny.edu
**Office Hours:** Mo 12:30pm-1:30pm, Th 5:30pm-6:30pm (Dolciani Math Learning Center)

## Prerequisite:
Math Milestone Placement Math101, or appropriate score on Hunter College's Math placement exam.

## After this course:
Students must obtain a grade of C or better in this course to take STAT113, MATH104, or Math12400. Students with a B- or better in this course can take Math12550. Students with a C/C+ grade in this course, must take Math10150 before taking Math12550.

## Textbook: Required Lumen OHM (Online Homework Management) $35

This course is using Open Education Resources (OER) for its textbook, provided by Lumen Learning. The textbook is free for the student. The homework system is $35. The interactive online textbook can be found here:

https://courses.lumenlearning.com/cuny-hunter-collegealgebra/

The textbook includes videos, interactive Desmos Applets, and "Try it" exercises. Due to the nature of such a textbook, there is no print version.

You can access the online homework system, where you will do homework and quizzes here:

https://ohm.lumenlearning.com

## Learning Outcomes:
Upon completion of the course you should be able to:

- Solve linear, quadratic, polynomial and radical equations, and inequalities
- Solve systems of linear equations and inequalities in two variables
- Use algebraic techniques in solving a variety of application problems
- Define, evaluate, and analyze functions and their graphs, including linear, quadratic, polynomial, rational, composite, exponential and logarithmic functions
- Find the domain and range of functions, including linear, polynomial, quadratic, rational, composite and inverse functions

- Write equations of lines
- Graph linear, quadratic, polynomial, rational, exponential, logarithmic, and piecewise-defined functions
- Simplify rational and radical expressions, including expressions containing rational exponents
- Apply strategies for factoring expressions, including grouping, the difference of squares, the sum and difference of cubes; as well as for factoring trinomials and perfect square trinomials
- Simplify and perform operations on complex numbers
- Solve quadratic equations by completing the square, factoring, using the square root property, and the quadratic formula
- Graph functions using vertical and horizontal shifts, reflections about the x- and y-axes, and compressions and stretches
- Use the distance and midpoint formulas

## Diagnostic Quiz

In the beginning of the second lecture, you will take an in-class 15 minute Diagnostic Quiz, on the prerequisite material for this course: order of operations, evaluating an expression, operations with fractions and decimals, percents, operations with negative numbers, commutative, associative and distributive properties of algebraic expressions. There are assignments inOHM titled "Practice for Diagnostic Quiz", in Module 0, which you can use to practice for the quiz, (not graded). For extra practice, you can review materials on the Math Tutoring center's website www.hunter.cuny.edu/dolciani by clicking on Brush-Up Skills.

## Grading Policy

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|---|---|
| Exams | 75% |
| Class Work | 5% |
| Online Homework | 15% |
| Online Quizzes | 5% |

Letter grades are determined by the following standard Hunter system:

| Grade | Percent |
|---|---|
| A+ | 97.5-100 |
| A | 92.5-97.4 |
| A- | 90.0-92.4 |
| B+ | 87.5-89.9 |
| B | 82.5-87.4 |
| B- | 80.0-82.4 |
| C+ | 77.5-79.9 |
| C | 70.0-77.4 |
| D | 60.0-69.9 |
| F | 0-59.9 |

## P/NC – grades

This course **DOES NOT** accept the P/NC grading system.

## Exams:

There will be 4 exams AND a final exam. The final exam will count as 2 exams. Of these 6 scores, the lowest is dropped, and the remaining 5 parts are averaged to obtain the exam average.

## Make Up Exam Policy:

All exams dates (except for the final) are preset in the beginning of the semester. If you have an excused planned conflict (such as medical procedures, religious observances) please contact instructor at least 2 weeks prior to the exam date to schedule a make up. If you missed an exam due to an unexpected event (illness, family emergency), contact your instructor immediately. In that event, your makeup exam will either be scheduled at the testing center (pending their availability) or your final exam score will be used in place of the missed exam, at the instructor's discretion. The latter option can only be used for one exam for the semester.

## Class Work

The material in MATH 101 (as most math) is best learned through practice, practice and more practice. Every lecture you will be solving problems in class, based on the day's lecture. ***This Class work will be collected and returned the next class.*** You can get assistance from your instructor, the in-class tutor, as well as your peers in completing your class work. This contributes to 5% of your final course grade.

## Homework

All homework is done on Lumen Learning's Online Homework System (OHM), there is an assignment for every section of each module. They are due the following lecture. Always check OHM for upcoming assignments. OHM is a wonderful, modern, interactive resource, including features such as graphing applets and videos. There is a total of 47 homework assignments, totaling 500 homework problems for the semester, each is 6 points, for a total of 3000 points. Homework is 15% of your grade. Each student is given 3 late-passes, each late pass extends the due date of one assignment for 1 week (not 1 week from when you use it). On enrollment you get 3 "Late Passes", each one will extend an assignment for one week.

You have 10 attempts for each homework problem. After the last incorrect attempt, the correct answer will be displayed. Please note, if you attempt to work on an assignment after the due date has passed, your assignment will be in "review mode", which is displayed on the top of the assignment. While you can still get practice, this work will not be recorded, and will not go towards your homework grade.

In order to see the assignments for this course, you must set up an OHM account, (https://ohm.lumenlearning.com). Select "enroll in a new course", you will be prompted to enter the course id and the enrollment key, which for this section is:

**Course Id: 93924 Enrollment Key: panickerf25**

## Online Quizzes

There will be 8 online-quizzes. They are set up on OHM and should appear in when you log into this course. Each quiz is 5 questions, with a preset time limit of 15-20 minutes. During quiz mode, you do not have access to any aids that are normally present when doing homework. (For example, if you have multiple tabs open, it will freeze.) You cannot pause and restart the quiz, you must finish it in one sitting. You have 3 attempts to do each quiz, only the highest score will be counted. Each quiz is 125 points. The quizzes are 5% of your grade. The quizzes are meant to serve as checkpoints for your mastery of the material. In quiz mode, you only have one attempt per problem.

## Attendance
Attendance is required, and there will be an attendance sheet every lecture. Since there is class work to be done in class, missing lecture will reflect negatively on your course performance. You are responsible for all work missed.

## Calculators
Scientific calculators are allowed during the exams. Graphing calculators, phones, tablets, computers, etc are not allowed during exams. Sharing of calculators during exams is not allowed.

## Tutoring
Drop-in tutoring and audiovisual materials are available at The Dolciani Mathematics Learning Center, located at the Silverstein Student Success Center 7th Floor Hunter East. (Certain tutoring services will be available remotely.)

In addition, the tutoring center will be hosting bootcamp sessions in the beginning of the semester to help students with prerequisite material.

## Best Practices
- Attend each class. Math, by nature is a very cumulative subject, missing just one lecture can set you back in the course. If you are sick or have a family emergency and must miss class, you must still make up the work.
- Take good notes, and keep course materials organized.
- Make sure to complete all the homework assignments in a timely manner. Also, keep a notebook with all your work for homework problems, so you can refer back to it later.
- If you need extra help, go to your instructor's office hours or the math learning center.

**Textbook: Hunter College - MATH101 - Algebra for College Students**
https://courses.lumenlearning.com/cuny-hunter-collegealgebra/ ( Provided by Lumen Learning)

| MTH | # | SECTIONS/TOPICS | Comments/Important Concepts/Terminology | Corresponding Homework |
|---|---|---|---|---|
| 8/28/25 | **1** | Introduction: Syllabus/Course Policies<br>**Module 1**:<br>• (1.1) - Interval and Set-Builder Notation<br>• (1.2) - Absolute Value<br>• (1.3) - Coordinate Plane and Graphing Equations<br>• (1.4) - Solving Linear Equations<br>• (1.5) - Applications of Linear Equations | Vocabulary: constant, variable, algebraic expression/equation, term, exponent, inequality, distribute, evaluate, coefficient | **HW1**<br>**HW2**<br>**HW3**<br>**HW4** |
| 9/4/25 | **2** | **In-class Diagnostic Quiz on Module 0**<br>**Module 1:** | Word problems with percent, finance, geometry and physics. | **HW5**<br>**HW6** |

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| | | (1.5) - Applications of Linear Equations (con't)<br><br>**Module 2:**<br><br>• (2.1) - Exponent Rules<br>• (2.2) - Scientific Notation | | **HW7** |
| 9/8/25 | **3** | **Module 3:**<br><br>• (3.1) - Functions and their Notation<br>• (3.2) - Graphs of Functions<br>• (3.3) - Domain and Range<br>• (3.4) - Algebra of Functions | Dependent/independent variable, domain, range, function notation | **HW8**<br><br>**HW9**<br><br>**HW10**<br><br>**HW11** |
| 9/11/25 | **4** | **Module 4**<br><br>• (4.1) - Characteristics of Linear Functions and their Graphs<br>• (4.2) - Equations of Linear Functions<br>• (4.3) - Parallel and Perpendicular Lines | Linear function, standard form/slope-intercept form/point-slope form, horizontal/vertical lines, parallel and perpendicular lines | **HW12**<br><br>**HW13**<br><br>**HW14** |
| 9/15/25 | **5** | **Module 5**<br><br>• (5.1) - Linear Systems in Two Variables<br>• (5.2) - Applications of Systems of Linear Equations | Graphing, substitution, additions methods. Revenue, cost, profit functions. | **HW15**<br><br>**HW16** |
| 9/18/25 | **6** | Review for Exam I | | |
| 9/25/25 | **7** | **EXAM I** | | |
| 9/29/25 | **8** | **Module 6**<br><br>• (6.1) - Linear Inequalities in One Variable<br>• (6.2) - Compound Inequalities<br>• (6.3) - Equations and Inequalities with Absolute Value | Intersection/union of sets | **HW17**<br><br>**HW18**<br><br>**HW19** |
| 10/6/25 | **9** | **Module 6**<br><br>• (6.4) - Linear Inequalities and Systems of Linear Inequalities in Two Variables<br>**Module 7**<br><br>• (7.1) - Algebraic Operations on Polynomials<br>• (7.2) - Polynomial Functions | Leading coefficient test | **HW20**<br><br>**HW21**<br><br>**HW22** |

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| 10/9/25 | **10** | **Module 7**<br>• (7.3) - Trinomial Factoring | | **HW23** |
| 10/14/25 | **11** | **Module 7**<br>• (7.4) - Factoring Special Forms<br>• (7.5) - Polynomial Equations | Zero-product principle | **HW24**<br>**HW25** |
| 10/16/25 | **12** | Review for EXAM II | | |
| 10/23/25 | **13** | **EXAM II** | | |
| 10/24/25 | **14** | **Module 8**<br>• (8.1) - Rational Expressions and Functions<br>• (8.2) - Operations on Rational Expressions | Asymptote, simplified rational expression, least common denominator | **HW26**<br>**HW27** |
| 10/27/25 | **15** | **Module 8**<br>• (8.3) - Division of Polynomials<br>• (8.4) - Rational Equations | | **HW28**<br>**HW29** |
| 10/30/25 | **16** | **Module 8**<br>• (8.5) - Applications of Rational Equations<br>• (8.6) - Variation | Average cost function, motion problems, directly proportional, inversely proportional, equation of variation, constant of variation | **HW30**<br>**HW31** |
| 11/3/25 | **17** | **Module 9**<br>• (9.1) - Introduction to Roots<br>• (9.2) - Radical Expressions and Rational Exponents<br>• (9.3) - Radical Functions | Radicand, radical sign, principal square root/principal $n^{th}$ root, positive and negative rational exponents | **HW32**<br>**HW33**<br>**HW34** |
| 11/6/25 | **18** | **Module 9**<br>• (9.4) - Algebraic Operations with Radical Expressions | Rationalizing the denominator, conjugate | **HW35** |
| 11/10/25 | **19** | **Module 9**<br>• (9.5) - Radical Equations<br>(9.6) - Imaginary and Complex Numbers | Imaginary unit *i*, real part, imaginary part, imaginary number, conjugate of a complex number | **HW36**<br>**HW37** |
| 11/13/25 | **20** | Review for EXAM III | | |
| 11/17/25 | **21** | **EXAM III** | | |
| 11/20/25 | **22** | **Module 10**<br>• (10.1) - Quadratic Functions<br>• (10.2) - Quadratic Functions and their Graphs | Completing the square, discriminant, parabola, vertex, axis of symmetry | **HW38**<br>**HW39** |

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| 11/24/25 | **23** | **Module 10**<br>• (10.3) - Applications of Quadratic Functions<br>**Module 11**<br>• (11.1) - Toolkit Functions<br>• (11.2) - Transformations of Functions | Finding max/min using the vertex of a parabola. Vertical shifts, horizontal shifts, reflection, stretching and shrinking. | **HW40**<br>**HW41**<br>**HW42** |
| 12/1/25 | **24** | **Module 11**<br>• (11.3) - Piecewise Functions<br>**Module 12**<br>• (12.1) - Exponential Functions | Piecewise functions, natural base e, natural exponential function, compound interest. | **HW43**<br>**HW44** |
| 12/4/25 | **25** | **Module 12**<br>• (12.2) - Composite and Inverse Functions<br>• (12.3) - Logarithmic Functions | Natural logarithmic function, exponential form/logarithmic form | **HW45**<br>**HW46** |
| 12/8/25 | **26** | **Module 13**<br>• (13.1) - Distance Formula, Midpoint Formula, Circles<br>Review for EXAM IV | Distance formula, midpoint formula | **HW47** |
| 12/11/25 | **27** | **EXAM IV** | | |
| 12/15/25 | **28** | FINAL REVIEW | | |

**Academic Integrity:**
Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

**Disability:**
In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/or Learning) consult the Office of AccessABILITY located in Room 1214B Hunter East to secure necessary academic accommodations. For further information and assistance please call (212-772-4857)/TTY (212-650-3230).

**Hunter College Policy on Sexual Misconduct:**
"In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation

against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).

b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.
CUNY Policy on Sexual Misconduct Link: http://www.cuny.edu/about/administration/offices/la/Policy-on-SexualMisconduct-12-1-14-with-links.pdf