UNG UNIVERSITY of NORTH GEORGIA™
COLLEGE OF SCIENCE & MATHEMATICS
Department of Mathematics

BASIC COURSE INFORMATION

Semester/Academic Year:	Spring 2026	
Course:	College Algebra – MATH 1111	In-Person Format (Three Classes Per Week)
Instructor:	Thomas Hartfield	
Office / Web:	Watkins Academic Building - 120	http://faculty.ung.edu/thartfield/
Phone / Email:	678.717.3858	thomas.hartfield@ung.edu
In Person Office Hours for Student Assistance:	Monday | Wednesday afternoons Tuesday | Thursday mornings	1:30pm – 3:15pm 9:00am – 11:00am

First Day for Withdrawal (W): Saturday, 17 January 2026 at 12:00midnight
After this date and time, exiting the course will require either a withdrawal (W or WF) or a letter grade (A/B/C/D/F).

Last Day for Withdrawal (W): Friday, 20 March 2026 before 11:59pm
After this date and time, it is no longer possible to withdraw with a W. A student withdrawing after this point will receive a WF.

Final Day of Class: Friday, 1 May 2026

Projected Test Dates:

Unit 1:	Friday, 30 January 2026	Unit 2:	Monday, 16 February 2026
Unit 3:	Wednesday, 4 March 2026	Unit 4:	Friday, 27 March 2026
Unit 5:	Monday, 13 April 2026	Unit 6:	Wednesday, 29 April 2026

Final Exam: MWF class (sect. G11, CRN 2884): Friday, 8 May 2026 at 10:20am in Watkins 134

Instructional Materials:
1. Guided Notes and Instructional Videos in eLearning@UNG [D2L]
2. Online Assignments: WebAssign for *Algebra & Trigonometry* embedded in Course Materials (within eLearning@UNG [D2L])
3. Textbook: *Algebra & Trigonometry* 4th ed. by Stewart, Redlin, & Watson, embedded in Course Materials (within eLearning@UNG [D2L])
4. Reference Textbook: *College Algebra, Version π*, Stitz and Zeager. Link to Online Version.

Technology Requirements:
1. A TI-84+CE model graphing calculator will be utilized in class. Scientific and graphing calculators up-to and equivalent to this model are permitted for testing (see instructor for clarification if needed). Students required to take MATH 1113 after this course are encouraged to use a TI-30 or equivalent scientific calculator.
2. A personal computer with internet access to use the WebAssign program through D2L.

Course Description: Topics include algebraic and absolute value equations and inequalities; piecewise defined, polynomial, rational, exponential, and logarithmic functions with their graphs and applications; and systems of equations. This course is designed to prepare students for MATH 1113 (Precalculus) or MATH 2040 (Brief Calculus); students in majors that do **not** require these courses are encouraged to take MATH 1001 (Quantitative Skills and Reasoning) or MATH 1101 (Mathematical Models).
Credit: 3 hours.
Prerequisite: Accuplacer Next-Generation Quantitative Reasoning, Algebra, and Statistics score of 266 or higher, MATH 1111 with a grade of D or higher when taken with MATH 0999, MATH 0099 with a grade of C or higher, any Area A MATH course or MATH 1401 with a grade of C or higher, old SAT Math score of 470 or higher, new SAT Section score of 510 or higher, new SAT Math Test score of 25.5 or higher, ACT Math score of 20 or higher, or MPI of 1300 or higher

CURRICULAR INFORMATION, PART 1

Core Curriculum:

This course is a Core IMPACTS course that is part of the Mathematics area.

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How do I measure the world?

Completion of this course should enable students to meet the following Learning Outcome:

- Students will apply mathematical and computational knowledge to interpret, evaluate, and communicate quantitative information using verbal, numerical, graphical, or symbolic forms.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Information Literacy
- Inquiry and Analysis
- Problem-Solving

Course Objectives:

After completion of the course the student will be able to:

- Determine if numeric, algebraic, and graphical representations are functions.
- Combine linear, quadratic, cubic, constant, absolute value, cube root, and square root functions to find a new composite function through addition, subtraction, multiplication, division and composition using numeric, algebraic, and graphical representations.
- Determine the domain of parent algebra functions and write the domain using interval notation.
- Determine the domain of a new function created from composition or operations.
- Evaluate a function and interpret the meaning in context.
- Make connections between transformations, which include vertical and horizontal shifts, vertical (only) stretches and compressions, and reflections using various representations.
- Find the midpoint and distance of a line segment and interpret the meaning in context.
- Identify the domain of piecewise functions, graph and evaluate piecewise functions in context involving linear, quadratic, cubic and square root functions.
- Write an equation of a linear function in slope-intercept form and determine the slope and x- and y-intercepts within an application using numeric, graphic and algebraic representations.
- Solve absolute value equations and inequalities.
- Evaluate absolute value functions within an application.
- Solve quadratic equations by factoring, using the square root property, quadratic formula, and graphing.
- Analyze quadratic functions in context and interpret the domain, range, vertex and (real) zeros using algebraic and graphic representations.
- Identify characteristics of a polynomial in graphic form, including extrema, increasing and decreasing intervals, and end-behaviors of polynomials.
- Use the remainder and factor theorem, long and synthetic division to identify roots and multiplicity of roots in polynomials.
- Identify the solution of rational equations algebraically (up to quadratic equivalence) and verify the existence of derived solutions.
- Graph rational functions.
- Identify intercepts, horizontal and vertical asymptotes both algebraic and graphic representations.
- Find the inverse algebraically and by reflecting the function over the line $y = x$.
- Determine if a function is one-to-one by examining a graph, table, or set of ordered pairs.
- Apply an inverse function and explain its meaning in the context of a given situation.
- Analyze an exponential function in context and interpret the initial value, growth rate, and asymptotes.
- Find the inverse of an exponential function.
- Solve equations based on the definition of exponential and logarithmic functions.
- Solve exponential and logarithmic equations by using the definition and properties.
- Interpret exponential and logarithmic equations and solutions in applications.
- Solve a two-by-two system of equation for two unknowns and interpret the solution in context.

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CURRICULAR INFORMATION, PART 2

Course Goals:

- Students will be able to understand function-concepts and their applications.
- Students will be able to apply concepts to real-world scenarios.
- Students will gain procedural fluency as demonstrated with algebraic manipulation of symbols and equations.
- Students will gain conceptual understanding as demonstrated with different visual representations.
- Students will synthesize broad themes in transformations, inverses, and domains.

Course Content:

Unit	Themes	Anticipated Dates
1	Distance and Midpoint, Relations and Linear Equations, Systems of Linear Equations	Instruction: 14 Jan – 28 Jan Test: Friday, 30 January
2	Introduction to Functions, Domains of Functions, Graphical Representations of Functions	Instruction: 2 Feb – 13 Feb Test: Monday, 16 February
3	Basic Functions and Equations, Transformations of Functions, Combining Functions	Instruction: 18 Feb – 2 Mar Test: Wednesday, 4 March
4	Quadratic and Polynomial Functions and Equations, Division of Polynomials	Instruction: 6 Mar – 25 Mar Test: Friday, 27 March
5	Rational Functions and Equations, Inverses of Functions, Exponential and Logarithmic Functions	Instruction: 30 Mar – 10 Apr Test: Monday, 13 April
6	Logarithms and Logarithmic Expressions, Exponential and Logarithmic Equations	Instruction: 15 Apr – 27 Apr Test: Wednesday, 29 April

Methods of Instruction:

Primary direct instruction will be in a modified "flipped" format, delivered by lecture videos provided through eLearning. Support for this direct instruction will be done using live practice and feedback; when the campus is open and the instructor is permitted in the classroom with students, live instruction will be done face to face in the classroom. (In the event that the campus is closed, live instruction will be achieved through online synchronous video meetings facilitated through eLearning.)

Secondary instruction and feedback will be driven by computer-based assessments which supplement direct instruction. Students should assess and monitor their own problem-solving process to determine when an error has been made, or a new strategy should be used.

CLASS POLICIES, PART 1

Attendance Policy:

Students are expected to attend class unless they feel it is unsafe to do so for themselves or for the sake of others.

Attendance will be checked for whatever format the class is meeting within. Absences from in-person instruction (when the campus is open) or from online instruction (when the campus is closed) will only be excused when notification is provided from the Office of the Dean of Students is received.

Students with more than four unexcused absences, or nine or more total absences, can be withdrawn from the course by the instructor. Students withdrawn from the course by the instructor can appeal and be reinstated to their class with instructor and registrar approval.

Students repeatedly arriving late or leaving early may be assessed a cumulative absence if the aggregate time missed is equal to a full class period.

Students are encouraged to bring technology to class to work on assignments when activities associated with the flipped format do not require their attention. However, students may be asked to leave the classroom if their use of technology is disruptive to other students.

Any student who fails the course will have his/her date of last attendance or assignment completed noted for federal financial aid regulations.

Evaluation Methods:

Formative assessment will be in the form of six written in-class tests covering each unit 1-6. Summative assessment will be in the form of a final examination covering units 1-6. Homework will be used to supplement the formative assessment.

MyLab Assignments:

All homework assignments will be completed through the WebAssign platform which will be accessed via D2L through the First Day Access program.

The homework grade category in the D2L gradebook will be comprised of a syllabus assignment plus all homework assignments in units 1 through 6 (including topic 0). Assignments from units 1 through 6 are due at 11:59pm the night before the unit test (as listed on page 1 of the syllabus). The unit 0 homework assignment is due concurrently with unit 1 homework. The syllabus assignment is due by 11:59pm on Friday, 23 January.

Each question within each assignment can be attempted multiple times while the assignment is open. The best result from all attempts is used for scoring purposes.

Students may request automatic extensions to homework assignments through the WebAssign platform within 14 days of the homework due date. Once granted, extensions are for seven days from the day they are requested. Homework exercises answered after the original due date are subject to a 20% late penalty.

Testing Policy:

Unit tests and the final exam will be given in a face-to-face format on paper; students will need to bring a pencil and their calculator (and only these items) for these tests. Work, as well as final answers, will be assessed, with partial credit being awarded as appropriate; credit can be withheld for a lack of written appropriate work.

Students are expected to take tests and the final exam in the classroom unless the campus is closed. Tests in the classroom must be started before any student in the room completes the test. Students with appropriate accommodations are exempt from these requirements but are expected to put forth a good faith effort to schedule tests and the exam with the Office Students Accessibility Services at a time similar to in-class tests.

Students may request to take a test earlier than it is given in the classroom. No make-up tests will be offered, except in extremely exceptional circumstances (such as hospitalization, legal or military obligations, or university activities approved by a dean or higher-level academic official).

CLASS POLICIES, PART 2

Academic Integrity:

Academic honesty is highly valued at UNG. "Academic honesty" means performing all academic work without plagiarism, cheating, lying, tampering, stealing, giving or receiving unauthorized assistance from any person, or using a unique source of information without properly acknowledging the source. "Academic dishonesty" means performing, attempting to perform, or assisting any other person in producing academic work that does not meet this standard of academic honesty.

Artificial intelligence cannot be used to complete any graded work.

During a test or exam, students are prohibited from:

- taking, giving, or receiving aid of any type with another student,
- using a mobile phone or smart watch for any purpose,
- intentionally using an unapproved calculator.

A student who acts in an academically dishonest manner will receive a zero for the test or exam in question and be referred to the academic integrity process at UNG. Additional consequences may result from this process, up to, and including suspension or expulsion from the university.

Final Grades:

The semester grade will be calculated by the following weighted sum, except as noted below:

Each of the five best test grades will count 12%, the homework average will count 15%, and the final exam will count 25%

Exception 1: Any student assigned a 0 due to academic dishonesty will have the fifth best test score replaced by the 0.

Exception 2: If a student has fewer than five test grades, the grade on the final exam will be applied as a test score to ensure five tests are used in the calculation.

The homework average will be calculated based on a weighted average of all homework assignments scheduled in WebAssign. Any assignment with no work applied to it will receive a 0.

100%	90%	80%	70%	60%	0%
A	B	C	D	F	

ADDITIONAL INFORMATION

Classroom Recording: Class sessions in Watkins 134 will be recorded through screen capture and room audio. These recordings will only be available to members of the classroom community and will be posted within eLearning within one week (preferably 24 hours but not guaranteed). Recordings are auto-captioned by computer. Viewing a classroom recording in lieu of being physically present in class will be considered an unexcused absence for attendance policy purposes (unless previously cleared by the instructor or excused by the Office of the Dean of Students).

Student Code of Conduct: Students at UNG are bound by the Student Code of Conduct Policy. Incorporated in this policy is the UNG Honor Code: A student will not lie, cheat, steal, plagiarize, evade the truth, conspire to deceive, or tolerate those who do.

Tutoring Resources: Free tutorial assistance is available in the MathLab, located off the ACTT Center, in the Watkins Building of the Gainesville campus. Tutors in the MathLab are not intended to replace classroom instruction; the primary responsibility of tutors is to clarify possible misunderstandings and assist in understanding processes and purposes of assignments and assessments.

Growth Mindset: Learning mathematics is best accomplished by having a growth mindset which has been defined as "the understanding that abilities and intelligence can be developed" (referenced from C. Dweck's 2017 paper *Mindset Works*). Regardless of innate talent and preexisting knowledge, all students can increase their abilities and intelligence through effort and persistence.

Schedule Changes: The instructor reserves the right to reschedule assignments by up to two class meetings due to unexpected events or adjustments in class pacing. Test postponements may be announced up through the class meeting preceding the scheduled date of test.

Limited Attempts Policy: UNG students in college-level courses are limited to three attempts at a course at UNG. An attempt is defined as any term resulting in a grade, a W, or a WF for the course.

Additional Resources:

1. Library Resources:
   - Mathematics Teacher, NCTM, Reston, VA.
   - Schaum's easy outlines. ***College algebra*** : based on Schaum's Outline of ***college algebra*** by Murray R. Spiegel and Robert E. Moyer [computer file] / abridgement editor, George J. Hademenos
   - Osen, Lynn. Women in Mathematics. Cambridge MA, MIT Press, 1974.
   - Bell, E. T. Men of Mathematics. New York: Simon & Schuster, 1937.
   - *Women and Science Celebrating Achievements Charting Challenges* (NSF, 1997)
   - *Multicultural and Gender Equity in the Mathematics Classroom: The Gift of Diversity* (Janet Trentacosta & J. Kenney, Eds., NCTM, 1997)
2. Web-based Resources:
   - Association for Women in Mathematics – http://www.awm-math.org
   - Careers in Mathematics – http://www.ams.org/early-careers/
   - Desmos – https://www.desmos.com/
   - Geogebra – http://www.geogebra.org
   - Khan Academy – https://www.khanacademy.org/
   - Math Forum – http://nctm.org/mathforum
   - Math is Fun – https://www.mathisfun.org/
   - Math is Power 4 U – http://www.mathispower4u.com/
   - Multicultural Pavilion – http://www.edchange.org/multicultural
   - PurpleMath – http://purplemath.com
   - SOS Mathematics – http://www.sosmath.com/
   - UNG Resources – http://www.ung.edu/learning-support/academic-resources.php

Supplemental Syllabus: Additional information is provided at http://ung.edu/academic-affairs/policies-and-guidelines/supplemental-syllabus.php.

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Tentative Course Calendar

WEEK	CLASS DATES			ACTIVITIES IN CLASS
1	12 Jan	14 Jan	16 Jan	Syllabus on Monday, Unit 0 on Wednesday, Begin Unit 1 on Friday
2	19 Jan	21 Jan	23 Jan	Continue Unit 1
3	26 Jan	28 Jan	30 Jan	Complete Unit 1, Review for Test 1 on Wednesday, **TEST 1 on Friday**
4	2 Feb	4 Feb	6 Feb	Begin Unit 2 on Monday
5	9 Feb	11 Feb	13 Feb	Complete Unit 2, Review for Test 2 on Friday
6	16 Feb	18 Feb	20 Feb	**TEST 2 on Monday**, Begin Unit 3 on Wednesday
7	23 Feb	25 Feb	27 Feb	Complete Unit 3
8	2 Mar	4 Mar	6 Mar	Review for Test 3 on Monday, **TEST 3 on Wednesday**, Begin Unit 4 on Friday
9	16 Mar	18 Mar	20 Mar	Continue Unit 4
10	23 Mar	25 Mar	27 Mar	Complete Unit 4, Review for Test 4 on Wednesday, **TEST 4 on Friday**
11	30 Mar	1 Apr	3 Apr	Begin Unit 5 on Monday
12	6 Apr	8 Apr	10 Apr	Complete Unit 5, Review for Test 5 on Friday
13	13 Apr	15 Apr	17 Apr	**TEST 5 on Monday**, Begin Unit 6 on Wednesday
14	20 Apr	22 Apr	24 Apr	Complete Unit 6
15	27 Apr	29 Apr	1 May	Review for Test 6 on Monday, **TEST 6 on Wednesday**, Review for Final on Friday