

**Math 100, College Algebra**  
Morehouse College  
Three (3) credit hours

**Prerequisite.** Math 090 (Basic Mathematics) with grade of C or better or mathematics Placement.

**Textbook.** Larson and Hostetler, *Precalculus(seventh edition)*, Houghton Mifflin, 2007.  
*Remark:* Many books with similar or identical content appear under different Names, such as *College Algebra*, *College Algebra with Trigonometry*, and *Precalculus*. The Larson and Hostetler text has been adopted because it provides a sound treatment of College Algebra content and because it offers the benefit of continuity for students who continue to Math 120 (Precalculus). Furthermore, it is competitively priced with other College Algebra textbooks.

**Text coverage**

Chapter 1 – Functions and Their Graphs Sections 1.1 – 1.9	4.5 weeks
Chapter 2 – Polynomial and Rational Functions Sections 2.1 – 2.7	4 weeks
Chapter 3 – Exponential and Logarithmic Functions Sections 3.1 – 3.4	3 weeks
Chapter 7 – Systems of Equations and Inequalities Sections 7.1 – 7.2	1.5 weeks

**Expectations for successful completion of Math 100.**

In Math 100, students will:

- Solve linear equations and equations involving rational expressions
- State and understand the definitions of absolute value
- Solve linear inequalities in one variable and show their solutions on the number line
- Solve absolute value equations and inequalities
- Solve inequalities involving rational expressions
- Solve equations involving radicals
- Solve quadratic inequalities
- Solve quadratic equations and equations in quadratic form
- Locate points on the coordinate plane
- Graph a line given its equation
- Use the distance, midpoint, and slope formulas
- Find the equation of a line given the slope and one point or given two points
- Determine the equations of lines parallel to or perpendicular to a given line
- Find the equations of a line when given its x- and y-intercepts
- Define a function

- Determine the domain and range of a function
- Determine functional values
- Demonstrate understanding of symbolic, numeric, and graphic representations of functions
- Graph basic functions and their transformations (shaping and shifting)
- Graph a piecewise defined function
- Identify and graph quadratic functions
- Determine the domain and range, and find all intercepts and asymptotes of a given rational function
- Sketch the graph of a rational functions
- Determine the domain and range of exponential and logarithmic functions
- Graph exponential and logarithmic functions
- Use the properties of logarithms to simplify and evaluate logarithmic expressions
- Use common and natural logarithms
- Solve a systems of equations by at least two methods, substitution and elimination
- Use matrices to solve systems of linear equations (recommended)