

*Cord Algebra I, Mathematics in Context, 3rd edition*  
correlation to South Carolina Elementary Algebra Indicators

| <b>Indicators</b>                                                                                                                                                                 | <b>Cord Algebra 1 Lesson(s)</b>                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Standard EA-1:</b> The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation. |                                                                                                       |
| <b>EA-1.1</b> Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.                                                                 | Covered throughout the textbook.                                                                      |
| <b>EA-1.2</b> Connect algebra with other branches of mathematics.                                                                                                                 | Covered throughout the textbook, especially in Math Applications sections at the end of each chapter. |
| <b>EA-1.3</b> Apply algebraic methods to solve problems in real-world contexts.                                                                                                   | Covered throughout the textbook, especially in Math Applications sections at the end of each chapter. |
| <b>EA-1.4</b> Judge the reasonableness of mathematical solutions.                                                                                                                 | Covered throughout the textbook, especially in Math Applications sections at the end of each chapter. |
| <b>EA-1.5</b> Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).                 | Covered throughout the textbook.                                                                      |
| <b>EA-1.6</b> Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.                                                       | Covered throughout the textbook.                                                                      |
| <b>EA-1.7</b> Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).           | Covered throughout the textbook, especially in Math Labs sections at the end of each chapter.         |

| Indicators                                                                                                                                                                                                             | Cord Algebra 1 Lesson(s) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Standard EA-2:</b> The student will demonstrate through the mathematical processes an understanding of the real number system and operations involving exponents, matrices, and algebraic expressions.              |                          |
| <b>EA-2.1</b> Exemplify elements of the real number system (including integers, rational numbers, and irrational numbers).                                                                                             | 1.1, 13.3                |
| <b>EA-2.2</b> Apply the laws of exponents and roots to solve problems.                                                                                                                                                 | 10.2, 10.3, 13.3         |
| <b>EA-2.3</b> Carry out a procedure to perform operations (including multiplication and division) with numbers written in scientific notation.                                                                         | 1.7                      |
| <b>EA-2.4</b> Use dimensional analysis to convert units of measure within a system.                                                                                                                                    | 2.1, 2.2                 |
| <b>EA-2.5</b> Carry out a procedure using the properties of real numbers (including commutative, associative, and distributive) to simplify expressions.                                                               | 3.1, 3.3                 |
| <b>EA-2.6</b> Carry out a procedure to evaluate an expression by substituting a value for the variable.                                                                                                                | 1.7                      |
| <b>EA-2.7</b> Carry out a procedure (including addition, subtraction, multiplication, and division by a monomial) to simplify polynomial expressions.                                                                  | 10.1, 10.2, 10.3, 10.4   |
| <b>EA-2.8</b> Carry out a procedure to factor binomials, trinomials, and polynomials by using various techniques (including the greatest common factor, the difference between two squares, and quadratic trinomials). | 10.5, 10.6, 10.7         |
| <b>EA-2.9</b> Carry out a procedure to perform operations with matrices (including addition, subtraction, and scalar multiplication).                                                                                  | 1.6                      |
| <b>EA-2.10</b> Represent applied problems by using matrices.                                                                                                                                                           | 1.6, p. 67 #17           |

| Indicators                                                                                                                                           | Cord Algebra 1 Lesson(s)                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>Standard EA-3:</b> The student will demonstrate through the mathematical processes an understanding of relationships and functions.               |                                                           |
| <b>EA-3.1</b> Classify a relationship as being either a function or not a function when given data as a table, set of ordered pairs, or graph.       | 5.1                                                       |
| <b>EA-3.2</b> Use function notation to represent functional relationships.                                                                           | 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, Chapter 5 Math Applications |
| <b>EA-3.3</b> Carry out a procedure to evaluate a function for a given element in the domain.                                                        | 5.1, 5.2                                                  |
| <b>EA-3.4</b> Analyze the graph of a continuous function to determine the domain and range of the function.                                          | 5.1, 5.3, 5.4, 5.5                                        |
| <b>EA-3.5</b> Carry out a procedure to graph parent functions (including $y = x$ , $y = x^2$ , $y = \sqrt{x}$ , $y =  x $ , and $y = \frac{1}{x}$ ). | 5.1, 5.3, 5.4, 5.5                                        |
| <b>EA-3.6</b> Classify a variation as either direct or inverse.                                                                                      | 5.3                                                       |
| <b>EA-3.7</b> Carry out a procedure to solve literal equations for a specified variable.                                                             | 3.4                                                       |
| <b>EA-3.8</b> Apply proportional reasoning to solve problems.                                                                                        | 3.2                                                       |

| Indicators                                                                                                                                                                          | Cord Algebra 1 Lesson(s) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Standard EA-4:</b> The student will demonstrate through the mathematical processes an understanding of the procedures for writing and solving linear equations and inequalities. |                          |
| <b>EA-4.1</b> Carry out a procedure to write an equation of a line with a given slope and a y-intercept.                                                                            | 4.4, 4.5                 |
| <b>EA-4.2</b> Carry out a procedure to write an equation of a line with a given slope passing through a given point.                                                                | 4.4, 4.5                 |
| <b>EA-4.3</b> Carry out a procedure to write an equation of a line passing through two given points.                                                                                | 4.4, 4.5                 |
| <b>EA-4.4</b> Use a procedure to write an equation of a trend line from a given scatterplot.                                                                                        | 7.3                      |
| <b>EA-4.5</b> Analyze a scatterplot to make predictions.                                                                                                                            | 7.3                      |
| <b>EA-4.6</b> Represent linear equations in multiple forms (including point-slope, slope-intercept, and standard).                                                                  | 4.3, 4.4, 4.5            |
| <b>EA-4.7</b> Carry out procedures to solve linear equations for one variable algebraically.                                                                                        | 3.1, 3.2, 3.3, 3.4, 3.5  |
| <b>EA-4.8</b> Carry out procedures to solve linear inequalities for one variable algebraically and then to graph the solution.                                                      | 9.1, 9.2, 9.3, 9.4       |
| <b>EA-4.9</b> Carry out a procedure to solve systems of two linear equations graphically.                                                                                           | 8.1                      |
| <b>EA-4.10</b> Carry out a procedure to solve systems of two linear equations algebraically.                                                                                        | 8.2, 8.3, 8.4, 8.5       |

| Indicators                                                                                                                                                                     | Cord Algebra 1 Lesson(s)                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>Standard EA-5:</b> The student will demonstrate through the mathematical processes an understanding of the graphs and characteristics of linear equations and inequalities. |                                                           |
| <b>EA-5.1</b> Carry out a procedure to graph a line when given the equation of the line.                                                                                       | 4.3, 4.4, 4.5, 4.6, 4.7                                   |
| <b>EA-5.2</b> Analyze the effects of changes in the slope, $m$ , and the y-intercept, $b$ , on the graph of $y = mx + b$ .                                                     | 4.4, 4.5, 4.6, 4.7                                        |
| <b>EA-5.3</b> Carry out a procedure to graph the line with a given slope and a y-intercept.                                                                                    | 4.4, 4.5, 4.6, 4.7                                        |
| <b>EA-5.4</b> Carry out a procedure to graph the line with a given slope passing through a given point.                                                                        | 4.4, 4.5, 4.6, 4.7                                        |
| <b>EA-5.5</b> Carry out a procedure to determine the x-intercept and y-intercept of lines from data given tabularly, graphically, symbolically, and verbally.                  | 4.4, 4.5, 4.6, 4.7                                        |
| <b>EA-5.6</b> Carry out a procedure to determine the slope of a line from data given tabularly, graphically, symbolically, and verbally.                                       | 4.2, 4.3, 4.4, 4.5, 4.6, 4.7                              |
| <b>EA-5.7</b> Apply the concept of slope as a rate of change to solve problems.                                                                                                | 4.2                                                       |
| <b>EA-5.8</b> Analyze the equations of two lines to determine whether the lines are perpendicular or parallel.                                                                 | 4.6                                                       |
| <b>EA-5.9</b> Analyze given information to write a linear function that models a given problem situation.                                                                      | 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, Chapter 5 Math Applications |
| <b>EA-5.10</b> Analyze given information to determine the domain and range of a linear function in a problem situation.                                                        | 5.1, 5.2, 5.3, 5.4, 5.5, Chapter 5 Math Applications      |
| <b>EA-5.11</b> Analyze given information to write a system of linear equations that models a given problem situation.                                                          | 8.1, 8.2, 8.3, 8.4, 8.5, Chapter 8 Math Applications      |
| <b>EA-5.12</b> Analyze given information to write a linear inequality in one variable that models a given problem situation.                                                   | 9.1, 9.2, 9.3, 9.4, Chapter 9 Math Applications           |

| Indicators                                                                                                                                       | Cord Algebra 1 Lesson(s)           |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <b>Standard EA-6:</b> The student will demonstrate through the mathematical processes an understanding of quadratic relationships and functions. |                                    |
| <b>EA-6.1</b> Analyze the effects of changing the leading coefficient $a$ on the graph of $y = ax^2$ .                                           | 11.1, 11.2                         |
| <b>EA-6.2</b> Analyze the effects of changing the constant $c$ on the graph of $y = x^2 + c$ .                                                   | 11.1, 11.2                         |
| <b>EA-6.3</b> Analyze the graph of a quadratic function to determine its equation.                                                               | 11.1, 11.2                         |
| <b>EA-6.4</b> Carry out a procedure to solve quadratic equations by factoring.                                                                   | 11.3                               |
| <b>EA-6.5</b> Carry out a graphic procedure to approximate the solutions of quadratic equations.                                                 | 11.1, 11.2, 11.3, 11.4, 11.5, 11.6 |
| <b>EA-6.6</b> Analyze given information to determine the domain of a quadratic function in a problem situation.                                  | 11.1, 11.2                         |