Blitzer College Alg 7/e

If you cover Chapter P, many of those sections are also covered in the Corequisite Support Modules.

Chapter 1. Equations and Inequalities

1.1 Graphs and Graphing Utilities

2.1 The Rectangular Coordinate System	2. Plot points in the rectangular coordinate system.
2.1 The Rectangular Coordinate System	4. Graph linear equations in two variables using a table of values
2.2 Intercepts	1. Find the intercepts of a line.

1.2 Linear Equations and Rational Equations

You might want to go over 1-step equations in the support course, and then cover multi-step equations in the college algebra course.

You might also consider the following objectives from the appendix: Appendix 8.8 (Percent Change), Appendix 8.9 (Percent Applications)

1.1 Linear Equations in One Variable	2. Solve linear equations in one variable using the addition property of equality.
1.1 Linear Equations in One Variable	3. Solve linear equations in one variable using the multiplication property of equality.
1.1 Linear Equations in One Variable	4. Solve linear equations in one variable using both properties of equality. **(Covered in the College Algebra section)**
5.1 Rational Expressions	2. Identify values that make a rational expression undefined.
5.3 Rational Equations	1. Solve rational equations. **(Covered in the College Algebra section)**

1.3 Models and Applications

You might want to cover some of the applications of linear equations in the support course, while leaving the rest for the college algebra course.

You might also consider the following objectives from the appendix: Appendix 11.3 (Simplify Algebraic Expressions), Appendix 11.4 (Translate Phrases Into Algebraic Expressions)

1.1 Linear Equations in One Variable	5. Translate sentences into equations.
1.1 Linear Equations in One Variable	6. Solve applications involving linear equations in one variable. **(Covered in the College Algebra section)**
1.4 Formulas	1. Solve a formula for a specific variable.

1.4 Complex Numbers

Any of these would be helpful with imaginary/complex numbers. Probably too many to cover them all.

3.2 Polynomial Expressions	4. Add polynomials.
3.2 Polynomial Expressions	8. Multiply polynomials.
6.1 Roots	1. Find square roots.
6.1 Roots	2. Approximate square roots.
6.2 Radical Expressions	3. Add or subtract radicals.
6.2 Radical Expressions	4. Multiply radical expressions.
6.2 Radical Expressions	5. Rationalize denominators with one term.
6.2 Radical Expressions	6. Rationalize denominators with two terms.

1.5 Quadratic Equations

In addition to the factoring objectives, you could add any of the following: 7.1.1 (Solve quadratic equations by factoring), 7.1.2 (Solve by square root property), 7.1.4 (Quadratic Formula), or Appendix 11.1 (Evaluate Algebraic Expressions).

3.3 Factoring	2. Factor trinomials with a leading coefficient of 1.
3.3 Factoring	3. Factor trinomials with a leading coefficient other than 1.
3.3 Factoring	7. Factor polynomials completely.

1.6 Other Types of Equations

You could add objective 6.4.1 (Radical Equations), 8.1.1 (Absolute Value Equations), or Appendix 2.6 (Evaluate Absolute Value Expressions).

3.2 Polynomial Expressions	10. Square binomials.
3.3 Factoring	4. Factor polynomials by grouping.
6.3 Rational Exponents	1. Write expressions containing rational exponents in radical form.

1.7 Linear Inequalities and Absolute Value Inequalities

This may be too many objectives to cover. The first three are essential – choose from the rest based on your students.

1.2 Linear Inequalities in One Variable	1. Write inequality statements using real numbers and inequality symbols.
1.2 Linear Inequalities in One Variable	2. Graph linear inequalities in one variable on a number line.
1.2 Linear Inequalities in One Variable	4. Write solutions to inequalities in interval notation.
1.2 Linear Inequalities in One Variable	6. Translate sentences into linear inequalities in one variable.
1.3 Compound Inequalities	1. Find the union of two sets.
1.3 Compound Inequalities	2. Find the intersection of two sets.

Chapter 2. Functions and Graphs

2.1 Basics of Functions and Their Graphs

2.3 Slope	3. Graph a line given its equation in slope-intercept form.
9.1 Relations and Functions	1. Identify relations and functions.
9.1 Relations and Functions	3. Find the domain and range of a function.
9.1 Relations and Functions	4. Use the vertical line test to determine if a graph is a function.

2.2 More on Functions and Their Graphs

9.1 Relations and Functions	2. Evaluate functions using function notation.
9.2 Linear Functions	3. Interpret the graph of a linear function (domain, range, slope, intercepts).

You could also add "2.2. 1. Find the intercepts of a line" if you did not include it in Section 1.1.

2.3 Linear Functions and Slope

2.2 Intercepts	2. Graph a linear equation in two variables given its intercepts.
2.3 Slope	1. Find the slope of a line given two points on the line.
2.3 Slope	2. Find the slope of a line given its graph.
2.4 Equations of Lines	2. Write the slope-intercept form of a line.

2.4 More on Slope

2.3 Slope	7. Use slope with parallel and perpendicular lines.
2.4 Equations of Lines	3. Write the equation of a line given the slope and a point on the line.

2.5 Transformations of Functions

2.6 Combinations of Functions; Composite Functions
You could use "3.2.8. Multiply polynomials." if you did not cover it in section 1.4 or "9.1.3. Find the domain and range of a function." if you did not cover it in section 2.1.

2.7 Inverse Functions
You could use "1.4.1. Solve a formula for a specific variable." if you did not cover it in section 1.3.

2.8 Distance and Midpoint Formulas; Circles

6.4 Radical Equations	3. Use the distance formula to find the distance between two points in a coordinate plane.
7.1 Quadratic Equations	3. Solve quadratic equations by completing the square.

Chapter 3. Polynomial and Rational Functions

3.1 Quadratic Functions

7.2 Graphs of Quadratic Equations	1. Graph quadratic equations.

You could also include "7.1.2. Solve quadratic equations by the square root property." if you did not cover it in section 1.5.

3.2 Polynomial Functions and Their Graphs

3.3 Dividing Polynomials; Remainder and Factor Theorems

3.2 Polynomial Expressions	7. Multiply a monomial and a polynomial.
3.4 Division of Polynomials	1. Divide a polynomial by a monomial

You could use "3.2.8. Multiply polynomials." if you did not cover it in section 1.4 or section 2.6.

3.4 Zeros of Polynomial Functions

3.5 Rational Functions and Their Graphs

5.1 Rational Expressions	1. Evaluate rational expressions.
5.1 Rational Expressions	3. Simplify rational expressions.

You could also add "5.1.2 - Identify values that make a rational expression undefined." if you did not include it in Section 1.2.

3.6 Polynomial and Rational Inequalities

1.2 Linear Inequalities in One Variable	5. Solve linear inequalities in one variable.

You could also add "5.3.1 – Solve rational equations." if you did not include it in Section 1.2.

3.7 Modeling Using Variation

5.3 Rational Equations	3. Solve problems that involve variation.

Chapter 4. Exponential and Logarithmic Functions

4.1 Exponential Functions

3.1 Exponential Expressions and Rules for Exponents	5. Evaluate exponential expressions with integer exponents.
3.1 Exponential Expressions and Rules for Exponents	6. Simplify exponential expressions using the rules for exponents.

4.2 Logarithmic Functions

You could cover "1.2.5. Solve linear inequalities in one variable." if you did not cover it in section 3.6.

4.3 Properties of Logarithms

3.1 Exponential Expressions and Rules for Exponents	2. Use the product rule for exponents.
3.1 Exponential Expressions and Rules for Exponents	3. Use the power rules for exponents.
3.1 Exponential Expressions and Rules for Exponents	4. Use the quotient rule for exponents.

4.4 Exponential and Logarithmic Equations

4.5 Exponential Growth and Decay; Modeling Data

Chapter 5. Systems of Equations and Inequalities

5.1 Systems of Linear Equations in Two Variables

4.1 Systems of Linear Equations in Two Variables	1. Determine if an ordered pair is a solution to a system of linear equations in two variables.
4.1 Systems of Linear Equations in Two Variables	2. Solve a system of linear equations in two variables by graphing.

You could also include "2.3.3. Graph a line given its equation in slope-intercept form." if you did not cover it in section 2.1 or "2.2.2. Graph a linear equation in two variables given its intercepts." if you did not cover it in section 2.3.

5.2 Systems of Linear Equations in Three Variables

4.2 Systems of Linear Equations in Three Variables	1. Determine whether an ordered triple is a solution to a system of linear equations in three variables.

5.3 Partial Fractions

5.4 Systems of Nonlinear Equations in Two Variables

5.5 Systems of Inequalities

5.6 Linear Programming

6. Matrices and Determinants

6.1 Matrix Solutions to Linear Systems

6.2 Inconsistent and Dependent Systems and Their Applications

6.3 Matrix Operations and Their Applications

6.4 Multiplicative Inverses of Matrices and Matrix Equations

6.5 Determinants and Cramer's Rule

7. Conic Sections

7.1 The Ellipse

7.2 The Hyperbola

7.3 The Parabola

8. Sequences, Induction, and Probability

8.1 Sequences and Summation Notation

8.2 Arithmetic Sequences

8.3 Geometric Sequences and Series

8.4 Mathematical Induction

8.5 The Binomial Theorem

8.6 Counting Principles, Permutations, and Combinations

8.7 Probability