

Math 104  
College Algebra  
College Algebra Essentials, Blitzer, 5th Edition  
Adopted Fall 2017

1.1-1.3	Graphs- Cartesian coordinate system, x-axis, y-axis, origin, quadrants, ordered pair, plot solutions, absolute value, x-intercept, y-intercept Linears- solving Rationals- solving Models	2 days
	<b>Quiz on Prerequisite Topics</b>	1 day
1.4	Complex Numbers-define i, define complex number, +, -, multiply, conjugate, divide, square roots of negatives	1 day
1.5	Quadratics- What is it? Solve by factoring (include zero product principle), square root property, quadratic equation (include properties of the discriminant). The Pythagorean Theorem should also be covered.	1 day
1.6	Other Types of Equations- factoring, radical on one side, 2 radicals, fractional powers, quadratic form, absolute value	1.5 days
1.7	Inequalities- <, > signs, interval notation, set builder notation, number lines, solving linear inequalities, compound inequalities, <i>absolute value inequalities</i>	1.5 days
2.1-2.2	Functions- relations, function definition, domain, range, function notation, piecewise functions, increasing, decreasing, constant, relative extrema, even and odd, difference quotient	1.5 days
2.3-2.4	Linear Functions and Slope- slope, slope intercept, point slope, standard form, horizontal line, vertical line, parallel lines, perpendicular lines, slope as average rate of change	1.5 days
	<b>Test on Chapter 1-2.4</b>	1 day
2.5	Transformations- vertical, horizontal shifts, stretches and compressions, reflections	1 day
2.6-2.7	Combinations, Composite, Inverse	1 day
2.8	Distance, Midpoint, Circles (Completing the square)	1 day
3.1	Quadratics- vertex formula, completing the square, x and y intercepts, maximum and minimum values	1 day
3.2	Polynomials- Definition, degree, smooth and continuous, leading coefficient test, number of peaks and valleys, finding x intercepts and multiplicity	1 day
3.3-3.4	Dividing polynomials, Zeros of Polynomials- Division, Synthetic division, Remainder Theorem, Fundamental Theorem of Algebra, Finding all zeros, conjugate pair theorem	2 days
3.5	Rationals- Vertical asymptotes, horizontal asymptotes (which you can cross!), sketching	1 day
3.6	Polynomial and Rational Inequalities- Temporarily set =0, find undefined, draw number line, choose test points	1 day

	<b>Test on Chapter 2.5-3.6</b>	1 day
4.1	Exponentials- what is it, graphs, interest , e	1 day
4.2	Logarithms- Evaluating, logarithmic form, graphs, domain	1 day
4.3	Properties of Logs	1 day
4.4	Exponential and Logarithmic Equations	1 day
4.5	Exponential Growth and Decay	1 day
	<b>Test on Chapter 4</b>	1 day
5.1	Systems of Linear Equations- consistent, inconsistent, dependent, Addition Method, Substitution method	1 day
	Extra Days for Review, Catch-Up, etc	1 day
	<b><i>Comprehensive final exam</i></b>	1 day