College Algebra Curriculum Map

TOPIC & TEXTBOOK CHAPTERS	Duration	Month(s)
Unit 1: Algebra and Geometry Review Appendix A.1-A.10: Set notation, inequalities, absolute value, exponent rules, right triangle properties, geometry word problems, polynomials, polynomial long division, synthetic division, rational expressions, solving equations, factoring, completing the square, quadratic formula, complex numbers, word problems, interval notation, nth roots, rational exponenents	4.5 wks	Aug/Sep
Units 2 and 3: Functions and Their Graphs Chapters 1 & 2: Distance formula, midpoint formula, symmetry, intercepts of functions, lines, point-slope equation, slope-intercept equation, general form of a line, parallel lines, circles, function, domain, graphing functions, average rate of change, secant line equation, piecewise-defined functions, absolute value function, transformations, modeling using functions	5 wks	Oct
Units 4 and 5: Linear, Quadratic, Polynomial and Rational Functions Chapters 3 & 4: Increasing/decreasing linear functions, linear regression, modeling using quadratic functions, maximization, quadratic regression, inequalities involving quadratics, polynomials, power functions, cubic regression, vertical and horizontal asymptotes, polynomial and rational inequalities, zeros of functions, Fundamental Theorem of Algebra,	6 wks	Nov/Dec
Unit 6: Trigonometric Functions Chapter 6**:** Angles, Trigonometric Functions, Unit Circle, Trigonometric Function Properties, Trigonometric Function (Sine, Cosine, Tangent, Cosecant, Secant and Cotangent) Graphs, Phase Shift, Sinusoidal Curve Fitting Section 7.1: Inverse Trig Functions Section 8.1: Right triangle Trigonometry	4 wks	Jan
Unit 7: Exponential and Logarithmic Functions Chapter 5: Composite Functions, One-to-One Functions, Inverse Functions, Exponential Functions, Logarithmic Functions, Properties of Logarithms, Logarithmic & Exponential Equations, Financial Models, Exponential Growth/Decay Models, Logistic Growth/Decay Models	5 wks	Feb/Mar
Unit 8: Analytic Geometry Chapter 10 (10.1-10.4): Conics, parabola, ellipse, hyperbola	2 wks	Mar
Unit 9: Systems of Equations and Inequalities Chapter 11: Systems of linear equations, solving multivariable systems, matrices, row operations, augmented matrices, determinants, matrix algebra, inverse of a matrix, systems of inequalities, linear programming	4 wks	April
Unit 10: Probability and Statistics (If time allows) Chapter 13: Probability, Counting Principles, Permutations, Combinations, Properties of Probability, Statistics, Data Analysis, Standard Deviation	2 wks	May

Textbook used: *Precalculus*, 5th edition, Sullivan and Sullivan, ISBN 978-0-13-135694-8