**Course 3 Syllabus for 2017 – 2018**

**Chapter 2, “Equations in One Variable”**

* Key Words used to Translate Phrases and Sentences into Expressions and Equations
* Solve Equations w/Rational Coefficients
* Defining the Variable
* Solve 2-Step Equations
* Write 2-Step Equations
* Solve Equations w/Variables on Both Sides
* Solve Multi-Step Equations

**Chapter 3, “Equations in Two Variables”**

* Constant Rate of Change
* Slope
* Equations in Slope-Intercept Format – y = mx + b
* Solving for the x and y-intercepts
* Graph a Line Using the Intercepts
* Write Linear Equations
* Solve Systems of Equations by Graphing
* Solve Systems of Equations Algebraically by Substitution

**Chapter 1, “Real Numbers”**

* Rational Numbers
* Powers and Exponents
* Multiply and Divide Monomials
* Powers of Monomials
* Negative Exponents
* Scientific Notation
* Computing with Scientific Notation
* Roots
* Estimating Roots
* Compare Real Numbers

**Chapter 4, “Functions”**

* Represent Relationships
* Relations
* Functions
* Linear Functions
* Compare Properties of Functions
* Construct Functions
* Linear and Nonlinear Functions
* Quadratic Functions
* Qualitative Graphs

**Chapter 5, “Triangles and the Pythagorean Theorem”**

* Lines – Angles formed by 2 parallel lines & a transversal: Corresponding, Alternate Exterior, Alternate Interior, Vertical, & Supplementary
* Angles of Triangles
* Polygons and Angles
* The Pythagorean Theorem
* Inquiry Lab – Proofs about the Pythagorean Theorem
* Using the Pythagorean Theorem
* Distance on a Coordinate Plane using the Pythagorean Theorem

**Chapter 6, “Transformations”**

* Translations
* Reflections
* Rotations
* Dilations

**Chapter 7, “Congruence and Similarity”**

* Inquiry Lab – Composition of Transformations
* Congruence and Transformations
* Inquiry Lab – Congruent Triangles
* Congruence
* Inquiry Lab – Similar Triangles
* Similarity and Transformations
* Properties of Similar Polygons
* Similar Triangles and Indirect Measurement
* Slope and Similar Triangles
* Area and Perimeter of Similar Figures

**Chapter 8, “Volume and Surface Area”**

* Inquiry Lab – 3-D Figures
* Review Volume of the Following: Rectangular Prisms, Triangular Prisms, and Cylinders
* Volume of Cones – Vol = $\frac{1}{3}$ Bh
* Volume of Spheres – Vol = $\frac{4}{3}$ π $r^{3}$
* Review Surface Area of Prisms
* Nets of Cylinders and Cones
* Surface Area of Cylinders – Lateral Area + 2 (Area of Base) = L.A. + 2 π $r^{2}$ = 2π r h + 2 π $r^{2}$
* Surface Area of Cones – Lateral Area + π $r^{2}$ = π r *l +* π $r^{2}$
* Surface Area and Volume of Similar Solids

**Chapter 9, “Scatter Plots and Data Analysis”**

* Scatter Plots
* Lines of Best Fit
* Two-Way Tables
* Descriptive Statistics – Mean, Median, Mode, and Box-and-Whisker Plots (5 Pt. Summary of Data)
* Measures of Variation – Mean Absolute Deviation and Standard Deviation
* Analyze Data Distributions