COURSE MAP – INTEGRATED ALGEBRA 8

Mathematical skill	Conceptual Framework	Subset	Curric. Lvl	Text	Module
MODULE 1					
Utilize problem solving strategies	Problem Solving	Problem Solving	**D**	3	1-1
Use dimensional analysis to find rates conversion factors	Patterns & Functions	Relationship	**I**	3	1-1
Identify and recognize linear and non-linear relationships expressed in tables and graphs	Patterns & Functions	Relationship	**I/D**	3	1-3
Scatterplot a data set in two variables and estimate a line to fit the data	Probability	Data Organization	**D**	3	1-3
Evaluate variable through numerical substitutions	Patterns & Functions	Relationship	**D/T**	3	1-4
Determine the circumference of a circle	Measurement	Types	**D/T**	3	1-4
Use formula to find perimeter of common and complex figures	Measurement	Types	**D/T**	3	1-4
Determine area of circle, triangle, parallelograms and trapezoids	Measurement	Types	**D/T**	3	1-4
Recognize and use the properties to simplify a numeric or algebraic expression	Number Sense	Computation without Calculator	**I/D**	3	1-5
Identify inverses and identities for addition and multiplication	Patterns & Functions	Relationship	**D/T**	3	1-5
Add and subtract to simplify polynomial expressions	Patterns & Functions	Relationship	**D/T**	3	1-5
Solve one-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	1-5
Solve multiple-step linear equations and inequalities	Patterns & Functions	Relationship	**I**	3	1-5
Solve two-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	1-5
Use formula to find perimeter of common and complex figures	Measurement	Types	**D/T**	3	1-6

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 2					
Recognize and use representative samples	Probability	Data Collection	**D**	3	2-1
Utilizes mental math	Problem Solving	Problem Solving	**D**	3	2-2
Use and determine percents including those greater than 100 and less than 1	Number Sense	Relationship	**D/T**	3	2-2
Calculate percent of change (sales tax, discounts, mark-up)	Measurement	Money	**D/T**	3	2-2
Develop simulations to predict an event	Probability	Chance	**D**	Supp	Supp
Use models/simulations to generate data	Probability	Data Collection	**D/T**	3	2-3
Recognize dependent / independent events	Probability	Chance	**D**	3	2-3
Analyze transformations and relate properties to similarity and congruence (translation)	Geometry	Geometry	**D/T**	3	2-4
Solve two-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	2-5
Graph an inequality	Patterns & Functions	Relationship	**I/D**	3	2-6
Determine measures of variation (range and outliers of a data set) using technology as appropriate	Probability	Data Interpretation	**D**	3	2-6
Write linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	2-6

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 3					
Write and evaluate square roots	Number Sense	Computation without Calculator	**D**	3	3-1
Utilizes mental math	Problem Solving	Problem Solving	**D**	3	3-1
Name ordered pair values that are solutions to a linear equation and plot those values	Patterns & Functions	Relationship	**D**	3	3-2
Graph the line representing the solution of a linear equation	Patterns & Functions	Relationship	**D**	3	3-2
Write linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	3-2
Identify and recognize linear and non-linear relationships expressed in tables and graphs	Patterns & Functions	Relationship	**I/D**	3	3-3
Determine the slope and intercepts of a line through a pair of given points	Patterns & Functions	Relationship	**I**	3	3-3
Scatterplot a data set in two variables and estimate a line to fit the data	Probability	Data Organization	**D**	3	3-3
Determine the slope of a line	Measurement	Slope	**D/T**	3	3-3
Use indirect measurement	Measurement	Types	**I/D**	3	3-4
Use ratio and proportion to determine the unknown sides of similar triangles	Geometry	Geometry	**D/T**	3	3-4
Construct perpendicular bisector of a chord	Geometry	Geometry	**I/D**	3	3-4
Use scientific notation in making estimates	Number Sense	Estimation	**I**	3	3-51
Solve multiple-step linear equations and inequalities	Patterns & Functions	Relationship	**I**	3	3-5
Identify and recognize linear and non-linear relationships expressed in tables and graphs	Patterns & Functions	Relationship	**I/D**	3	3-5
Compute using scientific notation	Number Sense	Computation without Calculator	**I**	3	3-5
Approximate an irrational number	Number Sense	Estimation	**D**	3	3-5
Write numbers in scientific notation	Number Sense	Number Sets	**D/T**	3	3-5
Use logical reasoning (inductive and deductive)	Patterns & Functions	Relationship	**D/T**	3	3-6

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 4					
Construct perpendicular bisector of a chord	Geometry	Geometry	**I/D**	3	4-1
Express sequences algebraically	Patterns & Functions	Number	**D/T**	3	4-1
Given an arithmetic or geometric sequence, find the nth term of the sequence	Patterns & Functions	Number	**D/T**	3	4-1
Construct and alter figures using transformational geometry	Geometry	Geometry	**I**	3	4-2
Recognize and name irrational numbers	Number Sense	Number Sets	**I/D**	3	4-2
Recognize and name rational numbers	Number Sense	Number Sets	**D/T**	3	4-2
Analyze transformations and relate properties to similarity and congruence (rotation)	Geometry	Geometry	**D/T**	3	4-2
Identify and use relationships among parts of complex 2D and 3D figures (e.g.- parallel sides, congruent faces	Geometry	Geometry	**D/T**	3	4-3
Identify and use properties of subsets of polygons	Geometry	Geometry	**D/T**	3	4-3
Solve two-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	4-3 4-4
Solve multiple-step linear equations and inequalities	Patterns & Functions	Relationship	**I**	3	4-3 4-4
Determine the measure of the interior angles of polygons	Measurement	Angles	**I/D**	3	4-4
Use special right triangle relationships to find sides in a triangle	Geometry	Geometry	**I**	3	4-5
Use the Pythagorean theorem to find the length of any side in a right triangle	Geometry	Geometry	**D**	3	4-5
Use lengths and areas to determine theoretical geometric probability	Probability	Chance	**D**	3	4-6
Determine area of circle, triangle, parallelograms and trapezoids	Measurement	Types	**D/T**	3	4-6
Determine area of an irregular figure	Measurement	Types	**D/T**	3	4-6

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 5					
Utilizes mental math	Problem Solving	Problem Solving	**D**	3	5-1
Determine surface areas of prisms	Measurement	Types	**D**	3	5-1
Determine area of circle, triangle, parallelograms and trapezoids	Measurement	Types	**D/T**	3	5-1
Determine the slope and intercepts of a line through a pair of given points	Patterns & Functions	Relationship	**I**	3	5-2
Recognize slope and y-intercept from a given linear equation	Patterns & Functions	Relationship	**I**	3	5-2
Write linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	5-2
Determine the slope of a line	Measurement	Slope	**D/T**	3	5-2
Write and evaluate powers, 0 and negative	Number Sense	Computation without Calculator	**D**	3	5-3
Multiply and divide powers	Number Sense	Computation without Calculator	**I/D**	3	5-3
Write numbers in scientific notation	Number Sense	Number Sets	**D/T**	3	5-3
Use special right triangle relationships to find sides in a triangle	Geometry	Geometry	**I**	3	5-4
Use the basic trigonometric ratios of sine, cosine and tangent to solve for sides and angles in a right triangle	Geometry	Geometry	**I/D**	3	5-4
Recognize angle relationships	Number Sense	Relationship	**D/T**	3	5-4
Determine angle measures using angle relationships	Measurement	Types	**D/T**	3	5-4
Classify angle pairs	Measurement	Angles	**D/T**	3	5-4
Calculate the value of a trigonometric expression with and without a calculator	Number Sense	Computation without Calculator	**I**	3	5-42
Use the counting principle to find the number of different arrangements of a group of terms	Probability	Chance	**I**	3	5-5
Recognize and calculate permutation and combination situations	Probability	Chance	**I**	3	5-5
Use the counting principle to find the number of different arrangements of a group of terms	Probability	Chance	**I**	3	5-6

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 6					
Recognize types of congruencies in proving triangles congruent	Geometry	Geometry	**I**	3	6-2
Identify and use relationships among parts of complex 2D and 3D figures (e.g.- parallel sides, congruent faces	Geometry	Geometry	**D/T**	3	6-2
Measure/determine volume of other 3D figures	Measurement	Types	**I/D**	3	6-3
Determine surface areas of prisms	Measurement	Types	**D**	3	6-3
Recognize angle relationships	Number Sense	Relationship	**D/T**	3	6-4
Determine angle measures using angle relationships	Measurement	Types	**D/T**	3	6-4
Classify angle pairs	Measurement	Angles	**D/T**	3	6-4
Graph an inequality	Patterns & Functions	Relationship	**I/D**	3	6-5
Solve one-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	6-5
Solve two-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	6-5
Solve multiple-step linear equations and inequalities	Patterns & Functions	Relationship	**I**	3	6-5
Use formula to find perimeter of common and complex figures	Measurement	Types	**D/T**	3	6-6
Determine area of circle, triangle, parallelograms and trapezoids	Measurement	Types	**D/T**	3	6-6

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 7					
Identify and recognize linear and non-linear relationships expressed in tables and graphs	Patterns & Functions	Relationship	**I/D**	3	7-1
Solve equations with variables on both sides	Patterns & Functions	Relationship	**I/D**	3	7-2
Solve multiple-step linear equations and inequalities	Patterns & Functions	Relationship	**I**	3	7-2
Graph the line representing the solution of a linear equation	Patterns & Functions	Relationship	**D**	3	7-2
Properties: distributive $3(2+4)= (3x2) + (3x4)$	Number Sense	Number Theory	**D/T**	3	7-2
Recognize and use commutative, associative and distributive properties of addition and multiplication (numbers and variables)	Patterns & Functions	Relationship	**D/T**	3	7-2
Solve two-step linear equations and inequalities	Patterns & Functions	Relationship	**D/T**	3	7-2
Recognize and describe exponential growth and decay	Patterns & Functions	Relationship	**I**	3	7-3
Construct and alter figures using transformational geometry	Geometry	Geometry	**I**	3	7-4
Analyze transformations and relate properties to similarity and congruence (reflection)	Geometry	Geometry	**D/T**	3	7-4
Solve quadratic or second degree equations by various methods (quadratic formula)	Patterns & Functions	Relationship	**I**	3	7-52

COURSE MAP – INTEGRATED ALGEBRA 8

MODULE 8					
Collect a random sample from a population	Probability	Data Collection	**I/D**	3	8-1
Recognize and use representative samples	Probability	Data Collection	**D**	3	8-1
Design various methods to gather data	Probability	Data Collection	**D/T**	3	8-1
Use models/simulations to generate data	Probability	Data Collection	**D/T**	3	8-1
Select an appropriate method of displaying data (line, stem & leaf, box & whiskers)	Statistics	Data Organization	**D/T**	3	8-3
Recognize that data can be manipulated	Statistics	Data Interpretation	**D/T**	3	8-3
Use matrices and grids to display and interpret data	Statistics	Data Organization	**I/D**	ALG	A1-4
Solve for a variable in a formula with more than one step	Patterns & Functions	Relationship	**I/D**	ALG	A2-6
Solve for a variable in a formula with one step	Patterns & Functions	Relationship	**D/T**	ALG	A2-6
Recognize and use transitive property	Patterns & Functions	Relationship	**I**	ALG	A3-6
Differentiate and select methods of data collection according to efficiency	Probability	Data Collection	**I**	Supp	Supp
Differentiate and select methods of data collection according to validity	Probability	Data Collection	**I**	Supp	Supp
Determine credibility of data using a variety of strategies	Statistics	Data Interpretation	**I**	Supp	Supp
Use estimation in problem solving	Number Sense	Estimation	**D**	3	All Mods