Textbook Alignment to the Utah Core – Algebra 2

This alignment has been completed using an "Independent Alignment Vendor" from the USOE approved list (www.schools.utah.gov/curr/imc/indvendor.html.) Yes _X_ No _____

Name of Company and Individual Conducting Alignment:
Carissa Bautista

A "Credential Sheet" has been completed on the above company/evaluator and is (Please check one of the following):

X On record with the USOE.

☐ The "Credential Sheet" is attached to this alignment.

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Algebra 2 Core Curriculum

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Title: *Algebra 2* © 2010 **ISBN#: 9780078884825**

Publisher: Glencoe/McGraw-Hill

Overall percentage of coverage in the *Student Edition (SE) and Teacher Edition (TE)* of the Utah State Core Curriculum: _____% **Overall percentage of coverage in *ancillary material*s of the Utah Core Curriculum: _____%**				
STANDARD I: Students will use the language and operations of algebra to evaluate, analyze and solve problems.				
Percentage of coverage in the *student and teacher edition* for Standard I:_____ %		**Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard I: _____%**		
	OBJECTIVES & INDICATORS	**Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	***Not covered in TE, SE or ancillaries*** ✓
Objective 1.1: Evaluate, analyze, and solve mathematical situations using algebraic properties and symbols.				
a.	Solve and graph first-degree absolute value equations of a single variable.	**Student Edition:** 27-31, 39 #54-#57, 103-104, 106 #33, 110 *Key Concept* 43, 103, 109 *Study Guide and Review* 51 1-4 *Why?* 27 **Teacher Wraparound Edition:** AE 28, 29, 110, 111; FM 29; T 27; TT 28		
b.	Solve radical equations of a single variable, including those with extraneous roots.	**Student Edition:** 441-445, 453-457 *Graphing Technology Lab* 460-461 *Study Guide and Review* 466 *Why?* 439 **Teacher Wraparound Edition:** AE 441, 454, 455; DI 445, 459; T 439, 453; WO 445		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
c.	Solve absolute value and compound inequalities of a single variable.	**Student Edition:** 41-47, 67 #45-#48, #50-#52, 118 Example 3 *Practice Test* 53 #10-#13, #22 *Preparing for Standardized Tests* 55 #1 *Study Guide and Review* 52 1-6 *Study Tip* 307 **Teacher Wraparound Edition:** AE 42, 43, 44; DI 44; T 41; WO 42		
d.	Add, subtract, multiply, and divide rational expressions and solve rational equations.	**Student Edition:** 18-25, 107 #55, 67 #56-#64 *Mid-Chapter Quiz* 26 #1-#5, #11-#20 *Standardized Test Practice* 57 #13 *Why?* 18 **Teacher Wraparound Edition:** AE 19, 20, 24, 55, 119; DI 21; T 18		
e.	Simplify algebraic expressions involving negative and rational exponents.	**Student Edition:** 446-451, 459 #80-#82, 482 #49-#54 *Study Guide and Review* 465 7-6 *Why?* 446 **Teacher Wraparound Edition:** AE 447, 448, 449; DI 447, 448; FM 448; T 446; TT 447		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
Objective 1.2: Solve systems of equations and inequalities.				
a.	Solve systems of linear, absolute value, and quadratic equations algebraically and graphically.	**Student Edition:** 135-140, 143-149, 151-156, 167-173, 231-233 *Concept Summary* 146 *Graphing Technology Lab* 142, 158, 236 *Why?* 135 **Teacher Wraparound Edition:** AE 136, 137, 138, 144, 145; DI 141, 146, 157; T 135		
b.	Graph the solutions of systems of linear, absolute value, and quadratic inequalities on the coordinate plane.	**Student Edition:** 135-140, 151-156, 160-165 *Graphing Technology Lab* 142-158 *Why?* 135 **Teacher Wraparound Edition:** **A**AE 136, 137, 138, 152, 153, 161; DI 141, 157, 667; FM 137; TT 155		
c.	Solve application problems involving systems of equations and inequalities.	**Student Edition:** 136 Real-World Example 3, 146 #1, 147 #27, #43, 148 #50-#55, 154 #4, #16-#17, #24, 155 #25-#27, #37-#38, 170 Example 3, 171 #20-#21, 232 Real-World Example 3 *Why?* 135, 143 **Teacher Wraparound Edition:** AE 136, 144, 162, 170, 232; T 135, 143		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
Objective 1.3: Represent and compute fluently with complex numbers.				
a.	Simplify numerical expressions, including those with rational exponents.	**Student Edition:** 446-451, 459 #80-#82, 482 #49-#54 *Study Guide and Review* 465 7-6 *Why?* 446 **Teacher Wraparound Edition:** AE 447, 448, 449; DI 447, 448; FM 448; T 446; TT 447		
b.	Simplify expressions involving complex numbers and express them in standard form, *a* + *bi.*	**Student Edition:** 276-282, 295 Example 4, 556-557, 564 Example 5 *Study Guide and Review* 322 5-4 **Teacher Wraparound Edition:** AE 278, 279		
Objective 1.4: Model and solve quadratic equations and inequalities.				
a.	Model real-world situations using quadratic equations.	**Student Edition:** 265 #49-#51, 271 Real-World Example 5, 288 #5, #48, 289 #53, 297 #9, 298 #20, #33-#34, 299 #41, 373 #48, 374 #73 *Why?* 292 **Teacher Wraparound Edition:** AE 262		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Approximate the real solutions of quadratic equations graphically.	**Student Edition:** 259-265, 305-310, 312-317 *Graphing Technology Lab* 267, 303-304 *Why?* 259, 305 **Teacher Wraparound Edition:** AE 260, 261, 262, 301, 313, 314; T 259, 305		
c.	Solve quadratic equations of a single variable over the set of complex numbers by factoring, completing the square, and using the quadratic formula.	**Student Edition:** 280 #36-#41, 298 #25-#26, 299 #31-#32, 372 #30, 373 #70 *Why?* 276 **Teacher Wraparound Edition:** T 276		
d.	Solve quadratic inequalities of a single variable.	**Student Edition:** 312-317, 339 #74-#76, 347 #59 *Graphing Technology Lab* 319 *Study Guide and Review* 324 5-8 *Why?* 312 **Teacher Wraparound Edition:** AE 313, 314; FM 314; T 312		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
e.	Write a quadratic equation when given the solutions of the equation.	**Student Edition:** 268 Example 1, 272 #1-#3, #17-#19, 273 #56-#58, 290 #70-#72 *Algebra Lab* 301-302 *Study Guide and Review* 322 #20-#25 **Teacher Wraparound Edition:** AE 269		
STANDARD II: Students will understand and represent functions and analyze function behavior.				
Percentage of coverage in the *student and teacher edition* for Standard II:_____ %		**Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard II: _____%**		
Objective 2.1: Represent mathematical situations using relations.				
a.	Model real-world relationships with functions.	**Student Edition:** 63 Real-World Example 2, 64 #4, 65 #14, #23, 66 #3, 70 Real-World Example 2, 73 #56, 80 #11, #22, 87 #27-#29, 88 #33-#34, 93 Real-World Example 1, 103 Real-World Example 3, 105 #30-#31, 253 Real-World Example 4, 271 Real-World Example 5 *Algebra Lab* 68 *Why?* 61 **Teacher Wraparound Edition:** AE 70, 77, 93, 253; T 61		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Describe a pattern using function notation.	**Student Edition:** 66 #3, 70 Real-World Example 2, 103 Real-World Example 3, 105 #31, 716 Example 4 **Teacher Wraparound Edition:** AE 716; SQ 259		
c.	Determine when a relation is a function.	**Student Edition:** P4-P5, 61-67, 69, 71 #1-#4, 74 #61-#63, 101, 348, 350, 424, 577 **Teacher Wraparound Edition:** AE P5, 62, 63, 64; DI 67; TT 62		
d.	Determine the domain and range of relations.	**Student Edition:** P4-P5, 61-62, 64 #1-#8, 65 #11-#20, #23, 74 #61-#63, 106 #35-#38, 424 Example 1, 427 #13-#18, 569-570, 572 #1-#6, 573 #7-#22, #25-#28 *Study Guide and Review* 123 2-1 **Teacher Wraparound Edition:** AE P4, P5, 62, 425, 570; SQ 61		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
Objective 2.2: Evaluate and analyze functions.				
a.	Find the value of a function at a given point.	**Student Edition:** 64 Example 4, 65 #24-#32, 70 Real-World Example 2, 71 Example 4, #12-#15, 72 #35-#40 *Algebra Lab* 68, 75 **Teacher Wraparound Edition:** AE 64, 71		
b.	Compose functions when possible.	**Student Edition:** 83-89, 93-97, 141 #51, 148 #52 *Graphing Technology Lab* 90 *Study Guide and Review* 124 2-4, 125 2-5 *Why?* 83 **Teacher Wraparound Edition:** AE 84, 85, 86		
c.	Add, subtract, multiply, and divide functions.	**Student Edition:** 409-415, 422 #61-#63, 430 #61 *Study Guide and Review* 463 7-1 *Why?* 409 **Teacher Wraparound Edition:** A 416; AE 410, 411, 412; DI 411, 415; T 409; WO 415		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
d.	Determine whether or not a function has an inverse, and find the inverse when it exists.	**Student Edition:** 417-421, 495 Real-World Example 6, 872 Example 1 *Graphing Technology Lab* 426 *Study Guide and Review* 463 7-2 *Why?* 417 **Teacher Wraparound Edition:** AE 418, 419; DI 419; T 417		
e.	Identify the domain and range of a function resulting from the combination or composition of functions.	**Student Edition:** P4-P5, 61-62, 64 #1-#8, 65 #11-#20, #23, 74 #61-#63, 106 #35-#38, 424 Example 1, 427 #13-#18, 569-570, 572 #1-#6, 573 #7-#22, #25-#28 *Study Guide and Review* 123 2-1 **Teacher Wraparound Edition:** AE P4, P5, 62, 425, 570; SQ 61		
Objective 2.3: Define and graph exponential functions and use them to model problems in mathematical and real-world contexts.				
a.	Define exponential functions as functions of the form $y = abx$,$b > 0$,$b \neq 1$.	**Student Edition:** 486 Real-World Example 2, 489 #38, 533-538, 684 **Teacher Wraparound Edition:** AE 486		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Model problems of growth and decay using exponential functions.	**Student Edition:** 475-481, 486 Real-World Example 2, 533-535, 538 *Spreadsheet Lab* 532 **Teacher Wraparound Edition:** AE 476, 477, 478, 479, 486, 534; DI 477; FM 477, 535; T 475		
c.	Graph exponential functions.	**Student Edition:** 475-481, 487 Example 3, 499 #75-#78 *Graphing Technology Lab* 483-484, 500-501 *Study Guide and Review* 542 8-1 **Teacher Wraparound Edition:** AE 476, 477, 478, 479		
Objective 2.4: Define and graph logarithmic functions and use them to solve problems in mathematics and real-world contexts.				
a.	Relate logarithmic and exponential functions.	**Student Edition:** 492, 496 #1-#4, #13-#24, 533-539 *Graphing Technology Lab* 500-501, 540 *Study Guide and Review* 543 8-4, 544 8-8 **Teacher Wraparound Edition:** AE 493, 534; DI 493, 499		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Simplify logarithmic expressions.	**Student Edition:** 492-493, 496 #5-#7, #25-#36, 502-507, 511 Example 4 **Teacher Wraparound Edition:** A 507; AE 493, 495, 503, 504, 511; DI 507		
c.	Convert logarithms between bases.	**Student Edition:** 492-497, 502-504 **Teacher Wraparound Edition:** AE 493, 495; DI 493, 499; TT 493		
d.	Solve exponential and logarithmic equations.	**Student Edition:** 485-490, 502-507, 516-521 *Graphing Technology Lab* 483-484, 523-524 *Study Guide and Review* 542-543 **Teacher Wraparound Edition:** AE 486, 487, 503, 504, 517		
e.	Graph logarithmic functions.	**Student Edition:** 492-495, 496 #8-#11, #37-#48, 497 #51-#56, 505 #36, 517 Example 3 *Graphing Technology Lab* 500-501, 523 *Mid-Chapter Quiz* 508 #11 **Teacher Wraparound Edition:** AE 494, 495		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
f.	Solve problems involving growth and decay.	**Student Edition:** 475-481, 486 Real-World Example 2, 533-535, 538 *Spreadsheet Lab* 532 **Teacher Wraparound Edition:** AE 476, 477, 478, 479, 486, 534; DI 477; FM 477, 535; T 475		
STANDARD III: Students will use algebraic, spatial, and logical reasoning to solve geometry and measurement problems.				
Percentage of coverage in the *student and teacher edition* for Standard III:_____ %		**Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard III: _____%**		
Objective 3.1: Examine the behavior of functions using coordinate geometry.				
a.	Identify the domain and range of the absolute value, quadratic, radical, sine, and cosine functions.	**Student Edition:** 104 Example 4, #8-#11, 105 #24-#29, 106 #39, 249 Example 1, 251 Example 2, 254 #7-#10, #22-#31, 255 #49-#54, 425 Example 2 *Key concept* 103, 109 **Teacher Wraparound Edition:** AE 104, 251, 425, 850		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Graph the absolute value, quadratic, radical, sine, and cosine functions.	**Student Edition:** 104 Example 4, #8-#11, 105 #24-#29, 106 #39, 110 Example 2, 249-256, 852 #26-#28, 855-861 *Graphing Technology Lab* 862 **Teacher Wraparound Edition:** AE 104, 111, 250, 251, 425, 426, 850, 856, 857, 858		
c.	Graph functions using transformations of parent functions.	**Student Edition:** 109-115, 863-869 *Graphing Technology Lab* 108, 862 *Why?* 109 **Teacher Wraparound Edition:** AE 110, 111, 112, 864, 865		
d.	Write an equation of a parabola in the form $y = a(x - h)2 + k$ when given a graph or an equation.	**Student Edition:** 623-628, 637 #72-#74, 646 #54 *Key Concept* 623 *Study Guide and Review* 669 10-2 **Teacher Wraparound Edition:** AE 624, 626		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
Objective 3.2: Determine radian and degree measures for angles.				
a.	Convert angle measurements between radians and degrees.	**Student Edition:** 819-822, 831 #56-#58, 872 Example 1, 874 #12-#17, 919, 922 #9-#20, 923 #36-#43 *Concept Summary* 819 *Key Concept* 819 *Practice Text* 883 #5-#8 *Study Guide and Review* 878 13-2 **Teacher Wraparound Edition:** AE 819, 920; T 919		
b.	Find angle measures in degrees and radians using inverse trigonometric functions, including exact values for special triangles.	**Student Edition:** 819-822, 826 Example 2, 831 #56-#58, 850-851, 872 Example 1, 874 #12-#17, 919, 922 #9-#20, 923 #36-#43 *Concept Summary* 819 *Key Concept* 819, 826 *Practice Text* 883 #5-#8 *Study Guide and Review* 878 13-2, 882 **Teacher Wraparound Edition:** AE 819, 920; T 919		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
Objective 3.3: Determine trigonometric measurements using appropriate techniques, tools, and formulas.				
a.	Define the sine, cosine, and tangent functions using the unit circle.	**Student Edition:** 848-850, 852 #26, 853 #29, 908 #41, 916 #38 *Key Concept* 848 **Teacher Wraparound Edition:** AE 849; T 848		
b.	Determine the exact values of the sine, cosine, and tangent functions for the special angles of the unit circle using reference angles.	**Student Edition:** 826, 827 Example 3, 828, 829 #4-#6, #18-#23, 830 #36 *Study Guide and Review* 879 13-3 *Key Concept* 826 **Teacher Wraparound Edition:** AE 827		
c.	Find the length of an arc using radian measure.	**Student Edition:** 820 Real-World Example 5, 821 #31-#34 *Key Concept* 820 **Teacher Wraparound Edition:** AE 820		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
d.	Find the area of a sector in a circle using radian measure.	The following references can be expanded upon to meet this objective. **Student Edition:** 820 Real-World Example 5, 821 #31-#34, 848-850, 852 #26, 853 #29, 908 #41, 916 #38 *Key Concept* 820, 848 **Teacher Wraparound Edition:** AE 820, 849; T 848		
STANDARD IV: Students will understand concepts from probability and statistics and apply statistical methods to solve problems.				
Percentage of coverage in the *student and teacher edition* for Standard IV:_____ %		**Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard IV: _____%**		
Objective 4.1: Apply basic concepts of probability.				
a.	Distinguish between permutations and combinations and identify situations in which each is appropriate.	**Student Edition:** P12-P14 *Reading Math* P13 *Skills Review* 758 #42-#45 **Teacher Wraparound Edition:** AE P12, P13; TT P13; WO P13		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Calculate probabilities using permutations and combinations to count events.	**Student Edition:** P12-P14 *Key Concept* P12 *Reading Math* P13 *Skills Review* 758 #42-#45 **Teacher Wraparound Edition:** AE P12, P13; TT P13; WO P13		
c.	Compute conditional and unconditional probabilities in various ways, including by definitions, the general multiplication rule, and probability trees.	**Student Edition:** 759-763, 764-771, 773-778, 786-792 *Algebra Lab* 779, 785 *Why?* 759 **Teacher Wraparound Edition:** A 763; EE 760, 765; DI 763, 771; SQ 759; T 764; WO 771		
d.	Define simple discrete random variables.	**Student Edition:** 766 *Reading Math* 766		
Objective 4.2: Use percentiles and measures of variability to analyze data.				
a.	Compute different measures of spread, including the range, standard deviation, and interquartile range.	**Student Edition:** 752-755 #1-#4, 757 #25-#27, #31-#32 *Algebra Lab* 99, 785 *Why?* 752 **Teacher Wraparound Edition:** AE 753; EC 100; SQ 752		

OBJECTIVES & INDICATORS		Coverage in *Student Edition (SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material* (titles, pg #'s, etc.)	*Not covered in TE, SE or ancillaries* ✓
b.	Compare the effectiveness of different measures of spread, including the range, standard deviation, and interquartile range in specific situations.	**Student Edition:** 752-755 #1-#4, 757 #25-#27, #31-#32 *Algebra Lab* 99, 785 *Why?* 752 **Teacher Wraparound Edition:** AE 753; EC 100; SQ 752		
c.	Use percentiles to summarize the distribution of a numerical variable.	**Student Edition:** 773-777, 790-791 *Algebra Lab* 779 *Study Guide and Review* 797 12-5, 798 12-7 **Teacher Wraparound Edition:** AE 774, 775; DI 778; T 773		
d.	Use histograms to obtain percentiles.	**Student Edition:** 766 Example 4, 767 #4, 770 #26, 773-774 Example 1 *Concepts and Skills Bank* 1002-1003 **Teacher Wraparound Edition:** AE 766, 1003		