

**Coeur d'Alene School District 271
Board Agenda Item for Information**

Agenda Item H

AGENDA ITEM: Course Pacing Guides
PURPOSE: Information
MEETING DATE: January 7, 2019
PREPARED BY: Michael S. Nelson

INFORMATIONAL SUMMARY: Our district regularly updates course pacing guides to adjust to changing state standards or based on needs-based outcomes. Three new pacing guides are provided:

- Algebra 2 (2330)
 - Adjusted by representatives from Coeur d'Alene and Lake City High Schools to current *Big Ideas Mathematics* text and currently under review by the Idaho Regional Math Center at Idaho State University, Pocatello.
 - Currently out for peer review with updated standardized assessments.
- ALP Algebra 2 (2337)
 - Adjusted by representatives from Coeur d'Alene and Lake City High Schools to current *Big Ideas Mathematics* text and currently under review by the Idaho Regional Math Center at Idaho State University, Pocatello.
 - Currently out for peer review with updated standardized assessments.
- Digital Design/Intro. To Yearbook (7290)
 - Course content adjusted to adhere to district technology graduation requirements.



DRAFT

Course Title:	Algebra 2	Course Number:	2330
Department / Grade Level:	Mathematics / Grades 09-12	Date:	December 5, 2018

PHILOSOPHY OF INSTRUCTION: The Coeur d'Alene School District will challenge each student to develop and extend mathematical proficiency and literacy through a focused and coherent curriculum, highest quality mathematics teaching, and assessments that meet the learning needs of each student.

Using the Common Core Standards as a foundation, the curriculum will emphasize depth over breadth with a focus on the foundational concepts and processes of mathematics. In order to address the demands of a changing world, our district's mathematics instruction will prepare students to innovate, think critically, problem solve, communicate, and collaborate—therefore becoming inspired for future study.

SCOPE AND SEQUENCE:

Quarter 1 (9 Weeks) Sept-Oct	Quarter 2 (9 Weeks) Nov- ½ January	Quarter 3 (9 Weeks) Last ½ Jan-March	Quarter 4 (9 Weeks) April-June
<ul style="list-style-type: none"> Unit #1: Statistics (3 weeks) Unit #2: Linear Function Review (3 weeks) Unit #3: Quadratic Functions (5 weeks) 	<ul style="list-style-type: none"> Unit #4: Quadratic Equations and Complex Numbers (5 weeks) Unit #5: Polynomial Functions (2 Weeks) 	<ul style="list-style-type: none"> Unit #6: Rational Exponents and Radical Functions (3 Weeks) Unit #7: Exponential and Logarithmic Functions (4 Weeks) Unit #8: Rational Functions (4 Weeks) 	<ul style="list-style-type: none"> Unit #9: Right Triangle Trigonometry (3 Weeks) Unit #10: Trigonometric Functions (3 weeks)

UNIT / THEME TITLE: UNIT #1: STATISTICS

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7		
Enduring Understandings:	I can analyze data based on measures of central tendency and z-scores.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #1-1: I can calculate and interpret measures of central tendency, quartiles, range, and standard deviation and use these values to solve statistical problems.	HSS-ID.1, HSS-ID.2, HSS-ID.3	Mean, median, mode, range, standard deviation, quartiles, Interquartile ranges, box and whisker plots, dot plots		Mastery-To be created	MP1, MP4



LT #1-2: I can describe distributions by identifying shape, center, spread and any possible outliers.	HSS-ID.A.2, HSS-ID.3	Skewed right, skewed left, symmetric, outlier and key terms from LT #1-1.		Developmental level to be created.	MP4
LT #1-3: I can recognize data sets that are normally distributed and use normal distributions and z-scores to calculate probabilities.	HSS-ID.a.4	Normal distribution, mean, standard deviation,	Algebra 2 Text Section 11-1	Developmental level to be created.	MP5
LT #1-4: I can identify and analyze different methods for collecting data and as well as recognize bias in how data are collected.	HSS-IC.B.1	Random sample, self-selected sample, systematic sample, stratified sample, cluster sample, convenience sample, bias, unbiased	Algebra 2 Text section 11-3	Developmental level to be created.	MP5
LT #1-5: I can describe the difference between an observational study and an experiment and recognize how randomization applies to both.	HSS-IC.B.3	Observational study, experiment, survey, control group, placebo	Algebra 2 Text section 11-4	Developmental level to be created.	MP2

UNIT 2 / THEME TITLE: LINEAR FUNCTION REVIEW

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the application of a linear function as it relates to the domain and range, line of best fit, and systems of equations.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs



LT #2-1: I can model and interpret real-world situations using linear functions.	HSA-CED.A.2, HSF-IF.C.9, HSF-BF.A.1a, HSF-LE.A.2	Domain, range, slope, slope intercept form, point-slope form	Algebra 2 text section 1-3	Mastery-To be Created	MP1, MP4
LT #2-2: I can use basic linear regressions to model sets of data and use the equation for the line of best fit to make predictions.	HSS-ID.B.6a	Scatterplot, line of best fit	Algebra 2 text section 1-3	Mastery-To be created	MP5
LT #2-3: I can solve systems of linear equations in two variables graphically and algebraically.	HSA-CED.A.3, HSA-REI.C.6			Mastery-To be created	MP1, MP5, MP6

UNIT 3 / THEME TITLE: QUADRATIC EQUATIONS

Estimated Time Frame:	5 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the differences between vertex, standard, and intercept form of quadratic equations as it relates graphical and real-world applications.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #3-1: I can identify the effects of transformations on a function and create equations given graphs.	HSF-BF.B.3	Parent function, transformation, translation, reflection, vertical stretch, vertical shrink	Algebra 2 Text sections 1-1 and 1-2	Developmental level to be created.	MP7, MP8
LT #3-2: I understand the characteristics of quadratic functions and can represent quadratic functions graphically using a variety of forms	HSF-IF.C.7c, HSF-BF.B.3, HSF-IF.B.4, HSF-IF.C.9, HSA-APR.B.3	Quadratic function, parabola, vertex, axis of symmetry, vertex form, intercept (factored) form, standard form	Algebra 2 Text sections 2-1 and 2-2	Mastery-To be created	MP7



(including transformations).					
LT #3-3: I can write an equation for a quadratic function in intercept form or vertex form given its graph.	HSA-CED.A.2, HSF-BF.A.1a		Algebra 2 Text section 2-4	Mastery-To be created	MP5
LT #3-4: I can model and interpret real-world situations using quadratic functions.	HSS-ID.B.6a		Algebra 2 Text sections 2-2 and 2-4	Developmental level to be created.	MP4

UNIT 4 / THEME TITLE: QUADRATIC EQUATIONS AND COMPLEX NUMBERS

Estimated Time Frame:	5 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand how to solve a quadratic equation by factoring, completing the square and the quadratic formula with complex solutions and can make an educated decision on the correct method for each equation or graph.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #4-1: I can solve quadratic equations using graphical representations.	HSA-REI.B.4b	Root of an equation, zero of a function, x-intercepts	Algebra 2 Text section 3-1	Mastery-To be created	MP1, MP7
LT #4-2: I can factor quadratic expressions and can solve quadratic equations using factoring and the zero product property.	HSA-SSE.A.2, HSA-REI.B.4b, HSF-IF.C.8a	Factoring	Algebra 2 Text section 3-1	Mastery-To be created	MP1, MP2, MP7
LT #4-3: I can simplify radical expressions and solve quadratic	HSA-SSE.A.2, HSA-REI.B.4b, HSF-IF.C.8a	Properties of square roots	Algebra 2 Text Section 3-1	Mastery-To be created	MP6, MP7



equations using roots.					
LT #4-4: I understand the basic concept of imaginary numbers and can perform basic operations with imaginary numbers.	HSN-CN.A.1, HSN-CN.A.2, HSN-CN.C.7, HSA-REI.B.4b	complex number, imaginary number,	Algebra 2 Text Section 3-2	Developmental level to be created.	MP2
LT #4-5: I can solve quadratic equations using completing the square and the quadratic formula.	HSN-CN.C.7 HSA-REI.B.4b HSF-IF.C.8a HSN-CN.C.7 HSA-REI.B.4b	Completing the square Perfect square trinomial Vertex form Quadratic Formula Discriminant	Algebra 2 Text Section 3-3 Section 3-4	Mastery-To be created	MP6, MP7
LT #4-6: I can solve basic nonlinear systems of equations consisting of a linear equation and a quadratic equation.	HSA-CED.A.3 HSA-REI.C.7 HSA-REI.D.11	System of nonlinear and linear equations	Algebra 2 Text Section 3-5	Developmental level to be created.	MP5, MP7

UNIT 5 / THEME TITLE: POLYNOMIAL FUNCTIONS

Estimated Time Frame:	2 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the operations of polynomial functions and I can graph the solutions set.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #5-1: I can add, subtract and multiply polynomials and understand that polynomials form a closed system analogous to the integers.	HSA-APR.A.1 HSA-APR.C.4 HSA-APR.C.5	Like Terms Identity	Algebra 2 Text	Mastery level to be created.	MP6
LT #5-2: I can divide and factor	HSA-APR.B.2 HSA-APR.D.6	Polynomial Long Division	Algebra 2 Text Section 4-3	Developmental level to be created.	MP5, MP7



polynomial expressions.		Synthetic Division Quotient Remainder			
LT #5-3: I can solve simple polynomial equations, find zeros of simple polynomial functions, and create rough sketches of polynomials.	HSA-SSE.A.2 HSA-APR.B.2 HSA-APR.B.3	Factored Completely Factor by Grouping Quadratic Form Repeated Solution Roots of an Equation	Algebra 2 Text Section 4-4 Section 4-5	Developmental level to be created.	MP4, MP7

UNIT 6 / THEME TITLE: RATIONAL EXPONENTS AND RADICAL FUNCTIONS

Estimated Time Frame:	4 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the operations of radical functions, solutions of rational functions, and I can graph the function and its inverse.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #6-1: I understand how the properties of exponents extend to include rational exponents and that rational exponents can be used to represent radicals.	HSN-RN.A.1 HSN-RN.A.2	Nth root of a Index of a radical	Algebra 2 Text Section 5-1	Mastery-To be created	MP7
LT #6-2: I can simplify a variety of basic numeric expressions involving rational exponents and radicals.	HSN-RN.A.2	Simplest form of a radical Conjugate Like radicals	Algebra 2 Text Section 5-2	Developmental level to be created.	MP6
LT #6-3: I can represent square root and cube root functions graphically.	HSF-IF.C.7b HSF-BF.B.3	Radical function	Algebra 2 Text Section 5-3	Developmental level to be created.	MP4
LT #6-4: I can solve simple	HSA-REI.A.1 HSA-REI.A.2	Radical Equations Extraneous Solutions	Algebra 2 Text Section 5-4	Developmental level to be created.	MP2, MP5



radical equations algebraically and graphically and understand how extraneous solutions may arise.					
LT #6-5: I can perform operations with functions.	HSA-BF.A.1b	Domain Scientific Notation	Algebra 2 Text Section 5-5	Developmental level to be created.	MP6
LT #6-6: I understand the basic concept of inverse functions.	HSA-CED.A.4 HSF-BF.B.4a	Inverse Functions	Algebra 2 Text Section 5-6	Developmental level to be created.	MP7

UNIT 7 / THEME TITLE: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

Estimated Time Frame:	4 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the relationship between exponential and logarithmic functions and I can apply their properties to solve real-world problems.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #7-1: I understand the characteristics of exponential functions and can represent exponential functions graphically.	HSA-SSE.B.3c HSF-IF.C.7e HSF-IF.C.8b HSF-LE.A.2 HSF-LE.B.5 HSF-IF.C.7e HSF-BF.B.3	Exponential function Exponential growth function Natural base e	Algebra 2 Text Section 6-1 and 6-2 and 6-4	Mastery-To be created	MP4, MP8
LT #7-2: I understand the characteristics of logarithmic functions and can represent basic logarithmic functions graphically.	HSF-IF.C.7e HSF-BF.B.3	Logarithmic function	Algebra 2 Text sections 6-3 and 6-4	Developmental level to be created.	MP4, MP8
LT #7-3: I understand the properties of logarithms and can use them to	HSA-SSE.A.2	Base, properties of exponents	Algebra 2 Text section 6-5	Developmental level to be created.	MP7



rewrite basic logarithmic expression.					
LT #7-4: I can use logarithms to express solutions to basic exponential equations.	HSA-REI.A.1	Exponential equations, extraneous solution	Algebra 2 Text section 6-6	Developmental level to be created.	MP5
LT #7-5: I can model real-world situations using exponential functions and can distinguish between linear, exponential, quadratic relationships given various representations.	HSA-CED.A.2, HSF-BF.A.1a, HSF-LE.A.2	Linear, quadratic, exponential, modeling	Algebra 2 Text section 6-7	Developmental level to be created.	MP4

UNIT 8 / THEME TITLE: RATIONAL FUNCTIONS

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I can apply transformations to the graphs of rational functions in relation to the asymptotes and find solutions to basic rational equations.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #8-1: I understand the characteristics of rational functions and can graphically represent them.	HSF-BF.B.3	Rational function, domain, range, asymptote		Developmental level-To be created	MP4
LT #8-2: I can add, subtract, multiply and divide rational expressions.	HSA-APR.D.6, HSA-APR.D.7,	Common denominator, least common multiple, reciprocal, rational expression,	Algebra 2 Text sections 7-3 and 7-4	Developmental level to be created.	MP6
LT #8-3: I can solve basic rational equations.	HSA-REI.A.2	Proportion, extraneous solution	Algebra 2 Text section 7-5	Developmental level to be created.	MP5



UNIT 9/ THEME TITLE: RIGHT TRIANGLE TRIGONOMETRY					
Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand how to determine the correct way to solve trigonometric equations using ratios, special right triangles and the Law of Sines or Cosines.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #9-1: I can use trigonometric functions with right triangles and non-right triangles to solve real-world and mathematical problems.	HSF-TF.C.8	Sine, cosine, tangent, cosecant, secant, cotangent, right triangle, hypotenuse, pythagorean theorem, law of sines, law of cosines	Algebra 2 Text section 9-1	Mastery-To be created	MP4, MP5

UNIT 10/ THEME TITLE: THE UNIT CIRCLE					
Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the relationship between degrees and radians on the unit circle and I can use either measurement in all quadrants.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #10-1: I can use radians and degrees to measure angles and convert between the two units of measure.	HSF-TF.A.1	radian	Algebra 2 Text section 9-2	Mastery-To be created	MP6
LT #10-2: I understand the characteristics of trigonometric functions and can represent trigonometric functions graphically.	HSF-IF.C.7e, HSF-BF.B.3	Sine, cosine, amplitude, periodic function, cycle, period, midline	Algebra 2 Text section 9-4	Developmental level to be created.	MP4



DRAFT

Course Title:	ALP Algebra 2	Course Number:	2337
Department / Grade Level:	Mathematics / Grades 09-12	Date:	December 5, 2018

PHILOSOPHY OF INSTRUCTION: The Coeur d'Alene School District will challenge each student to develop and extend mathematical proficiency and literacy through a focused and coherent curriculum, highest quality mathematics teaching, and assessments that meet the learning needs of each student.

Using the Common Core Standards as a foundation, the curriculum will emphasize depth over breadth with a focus on the foundational concepts and processes of mathematics. In order to address the demands of a changing world, our district's mathematics instruction will prepare students to innovate, think critically, problem solve, communicate, and collaborate—therefore becoming inspired for future study.

SCOPE AND SEQUENCE:

Quarter 1 (9 Weeks) Sept-Oct	Quarter 2 (9 Weeks) Nov- ½ January	Quarter 3 (9 Weeks) Last ½ Jan-March	Quarter 4 (9 Weeks) April-June
<ul style="list-style-type: none"> Unit #1: Statistics (3 weeks) Unit #2: Linear Function Review (3 weeks) Unit #3: Quadratic Functions (5 weeks) 	<ul style="list-style-type: none"> Unit #4: Quadratic Equations and Complex Numbers (5 weeks) Unit #5: Polynomial Functions (2 Weeks) 	<ul style="list-style-type: none"> Unit #6: Rational Exponents and Radical Functions (3 Weeks) Unit #7: Exponential and Logarithmic Functions (4 Weeks) Unit #8: Rational Functions (3 Weeks) 	<ul style="list-style-type: none"> Unit #9: Right Triangle Trigonometry (3 Weeks) Unit #10: Trigonometric Functions (4 weeks)

UNIT / THEME TITLE: UNIT #1: STATISTICS

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7		
Enduring Understandings:	I can analyze data based on measures of central tendency and z-scores.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #1-1: I can calculate and interpret measures of central tendency, quartiles, range, and standard deviation and use these values to solve statistical problems.	HSS-ID.1, HSS-ID.2, HSS-ID.3	Mean, median, mode, range, standard deviation, quartiles, Interquartile ranges, box and whisker plots, dot plots		Mastery-To be created	MP1, MP4



LT #1-2: I can describe distributions by identifying shape, center, spread and any possible outliers.	HSS-ID.A.2, HSS-ID.3	Skewed right, skewed left, symmetric, outlier and key terms from LT #1-1.		Developmental level to be created.	MP4
LT #1-3: I can recognize data sets that are normally distributed and use normal distributions and z-scores to calculate probabilities.	HSS-ID.a.4	Normal distribution, mean, standard deviation,	Algebra 2 Text Section 11-1	Developmental level to be created.	MP5
LT #1-4: I can identify and analyze different methods for collecting data and as well as recognize bias in how data are collected.	HSS-IC.B.1	Random sample, self-selected sample, systematic sample, stratified sample, cluster sample, convenience sample, bias, unbiased	Algebra 2 Text section 11-3	Developmental level to be created.	MP5
LT #1-5: I can describe the difference between an observational study and an experiment and recognize how randomization applies to both.	HSS-IC.B.3	Observational study, experiment, survey, control group, placebo	Algebra 2 Text section 11-4	Developmental level to be created.	MP2

UNIT 2 / THEME TITLE: LINEAR FUNCTION REVIEW

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the application of a linear function as it relates to the domain and range, line of best fit, and systems of equations.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs



LT #2-1: I can model and interpret real-world situations using linear functions.	HSA-CED.A.2, HSF-IF.C.9, HSF-BF.A.1a, HSF-LE.A.2	Domain, range, slope, slope intercept form, point-slope form	Algebra 2 text section 1-3	Mastery-To be Created	MP1, MP4
LT #2-2: I can use basic linear regressions to model sets of data and use the equation for the line of best fit to make predictions.	HSS-ID.B.6a	Scatterplot, line of best fit	Algebra 2 text section 1-3	Mastery-To be created	MP5
LT #2-3: I can solve systems of linear equations in two and three variables graphically and algebraically.	HSA-CED.A.3, HSA-REI.C.6		Algebra 2 Text section 1-4	Mastery-To be created	MP1, MP5, MP6

UNIT 3 / THEME TITLE: QUADRATIC EQUATIONS

Estimated Time Frame:	5 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the differences between vertex, standard, and intercept form of quadratic equations as it relates to graphical and real-world applications.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #3-1: I can identify the effects of transformations on a function and create equations given graphs.	HSF-BF.B.3	Parent function, transformation, translation, reflection, vertical stretch, vertical shrink	Algebra 2 Text sections 1-1 and 1-2	Developmental level to be created.	MP7, MP8
LT #3-2: I understand the characteristics of quadratic functions and can represent quadratic functions graphically using	HSF-IF.C.7c, HSF-BF.B.3, HSF-IF.B.4, HSF-IF.C.9, HSA-APR.B.3	Quadratic function, parabola, vertex, axis of symmetry, vertex form, intercept (factored) form, standard form	Algebra 2 Text sections 2-1 and 2-2	Mastery-To be created	MP7



a variety of forms (including transformations).					
LT #3-3: I can write an equation for a quadratic function in intercept form, vertex form and standard form given its graph.	HSA-CED.A.2, HSF-BF.A.1a		Algebra 2 Text section 2-4	Mastery-To be created	MP5
LT #3-4: I can model and interpret real-world situations using quadratic functions.	HSS-ID.B.6a		Algebra 2 Text sections 2-2 and 2-4	Developmental level to be created.	MP4
LT #3-5: I can use technology to perform a quadratic regression analysis.	HSS-ID.B.6a	Quadratic Regression	Algebra 2 Text 2-4	Developmental to be created	MP4

UNIT 4 / THEME TITLE: QUADRATIC EQUATIONS AND COMPLEX NUMBERS

Estimated Time Frame:	5 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand how to solve a quadratic equation by factoring, completing the square and the quadratic formula with complex solutions and can make an educated decision on the correct method for each equation or graph.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #4-1: I can solve quadratic equations using graphical representations.	HSA-REI.B.4b	Root of an equation, zero of a function, x-intercepts	Algebra 2 Text section 3-1	Mastery-To be created	MP1, MP7
LT #4-2: I can factor quadratic expressions and can solve quadratic equations using factoring and the	HSA-SSE.A.2, HSA-REI.B.4b, HSF-IF.C.8a	Factoring	Algebra 2 Text section 3-1	Mastery-To be created	MP1, MP2, MP7



zero product property.					
LT #4-3: I can simplify radical expressions and solve quadratic equations using roots.	HSA-SSE.A.2, HSA-REI.B.4b, HSF-IF.C.8a	Properties of square roots	Algebra 2 Text Section 3-1	Mastery-To be created	MP6, MP7
LT #4-4: I understand the basic concept of imaginary numbers and can perform basic operations with imaginary numbers.	HSN-CN.A.1, HSN-CN.A.2, HSN-CN.C.7, HSA-REI.B.4b	complex number, imaginary number,	Algebra 2 Text Section 3-2	Developmental level to be created.	MP2
LT #4-5: I can solve quadratic equations using completing the square and the quadratic formula.	HSN-CN.C.7 HSA-REI.B.4b HSF-IF.C.8a HSN-CN.C.7 HSA-REI.B.4b	Completing the square Perfect square trinomial Vertex form Quadratic Formula Discriminant	Algebra 2 Text Section 3-3 Section 3-4	Mastery-To be created	MP6, MP7
LT #4-6: I can solve basic nonlinear systems of equations consisting of a linear equation and a quadratic equation.	HSA-CED.A.3 HSA-REI.C.7 HSA-REI.D.11	System of nonlinear and linear equations	Algebra 2 Text Section 3-5	Developmental level to be created.	MP5, MP7

UNIT 5 / THEME TITLE: POLYNOMIAL FUNCTIONS

Estimated Time Frame:	2 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the operations of polynomial functions and I can graph the solution set.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #5-1: I can add, subtract and multiply polynomials and	HSA-APR.A.1 HSA-APR.C.4 HSA-APR.C.5	Like Terms Identity	Algebra 2 Text	Mastery level to be created.	MP6



understand that polynomials form a closed system analogous to the integers.					
LT #5-2: I can divide and factor polynomial expressions.	HSA-APR.B.2 HSA-APR.D.6	Polynomial Long Division Synthetic Division Quotient Remainder	Algebra 2 Text Section 4-3	Developmental level to be created.	MP5, MP7
LT #5-3: I can solve simple polynomial equations, find zeros of simple polynomial functions, and create rough sketches of polynomials.	HSA-SSE.A.2 HSA-APR.B.2 HSA-APR.B.3	Factored Completely Factor by Grouping Quadratic Form Repeated Solution Roots of an Equation	Algebra 2 Text Section 4-4 Section 4-5	Developmental level to be created.	MP4, MP7

UNIT 6 / THEME TITLE: RATIONAL EXPONENTS AND RADICAL FUNCTIONS

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the operations of radical functions, solutions of radical functions, and I can graph the function and its inverse.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #6-1: I understand how the properties of exponents extend to include rational exponents and that rational exponents can be used to represent radicals.	HSN-RN.A.1 HSN-RN.A.2	Nth root of a Index of a radical	Algebra 2 Text Section 5-1	Mastery-To be created	MP7
LT #6-2: I can simplify a variety of basic numeric expressions involving rational exponents and radicals.	HSN-RN.A.2	Simplest form of a radical Conjugate Like radicals	Algebra 2 Text Section 5-2	Developmental level to be created.	MP6



LT #6-3: I can represent square root and cube root functions graphically.	HSF-IF.C.7b HSF-BF.B.3	Radical function	Algebra 2 Text Section 5-3	Developmental level to be created.	MP4
LT #6-4: I can solve simple radical equations algebraically and graphically and understand how extraneous solutions may arise.	HSA-REI.A.1 HSA-REI.A.2	Radical Equations Extraneous Solutions	Algebra 2 Text Section 5-4	Developmental level to be created.	MP2, MP5
LT #6-5: I can perform operations with functions including the composition of functions.	HSA-BF.A.1b	Domain Scientific Notation	Algebra 2 Text Section 5-5	Developmental level to be created.	MP6
LT #6-6: I understand the basic concept of inverse functions.	HSA-CED.A.4 HSF-BF.B.4a	Inverse Functions	Algebra 2 Text Section 5-6	Developmental level to be created.	MP7

UNIT 7 / THEME TITLE: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

Estimated Time Frame:	4 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the relationship between exponential and logarithmic functions and I can apply their properties to solve real-world problems.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #7-1: I understand the characteristics of exponential functions and can represent exponential functions graphically.	HSA-SSE.B.3c HSF-IF.C.7e HSF-IF.C.8b HSF-LE.A.2 HSF-LE.B.5 HSF-IF.C.7e HSF-BF.B.3	Exponential function Exponential growth function Natural base e	Algebra 2 Text Section 6-1 and 6-2 and 6-4	Mastery-To be created	MP4, MP8
LT #7-2: I understand the characteristics of logarithmic	HSF-IF.C.7e HSF-BF.B.3	Logarithmic function	Algebra 2 Text sections 6-3 and 6-4	Developmental level to be created.	MP4, MP8



functions and can represent basic logarithmic functions graphically.					
LT #7-3: I understand the properties of logarithms and can use them to rewrite basic logarithmic expression.	HSA-SSE.A.2	Base, properties of exponents	Algebra 2 Text section 6-5	Developmental level to be created.	MP7
LT #7-4: I can use logarithms to express solutions to basic exponential equations.	HSA-REI.A.1	Exponential equations, extraneous solution	Algebra 2 Text section 6-6	Developmental level to be created.	MP5
LT #7-5: I can model real-world situations using exponential functions and can distinguish between linear, exponential, quadratic relationships given various representations.	HSA-CED.A.2, HSF-BF.A.1a, HSF-LE.A.2	Linear, quadratic, exponential, modeling	Algebra 2 Text section 6-7	Developmental level to be created.	MP4

UNIT 8 / THEME TITLE: RATIONAL FUNCTIONS

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I can apply transformations to the graphs of rational functions in relation to the asymptotes and find solutions to basic rational equations.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #8-1: I understand the characteristics of rational functions and can represent rational	HSF-BF.B.3	Rational function, domain, range, asymptote		Developmental level-To be created	MP4



functions graphically.					
LT #8-2: I can add, subtract, multiply and divide rational expressions.	HSA-APR.D.6, HSA-APR.D.7,	Common denominator, least common multiple, reciprocal, rational expression,	Algebra 2 Text sections 7-3 and 7-4	Developmental level to be created.	MP6
LT #8-3: I can solve basic rational equations.	HSA-REI.A.2	Proportion, extraneous solution	Algebra 2 Text section 7-5	Developmental level to be created.	MP5

UNIT 9/ THEME TITLE: RIGHT TRIANGLE TRIGONOMETRY

Estimated Time Frame:	3 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand how to determine the correct way to solve trigonometric equations using ratios, special right triangles and the Law of Sines or Cosines.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #9-1: I can use trigonometric functions with right triangles and non-right triangles to solve real-world and mathematical problems.	HSF-TF.C.8	Sine, cosine, tangent, cosecant, secant, cotangent, right triangle, hypotenuse, Pythagorean theorem, law of sines, law of cosines	Algebra 2 Text section 9-1	Mastery-To be created	MP4, MP5

UNIT 10/ THEME TITLE: THE UNIT CIRCLE

Estimated Time Frame:	4 weeks	Focal Standards for Mathematical Practice	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8		
Enduring Understandings:	I understand the relationship between degrees and radians on the unit circle and I can use either measurement in all quadrants.				
Learning Target	Idaho Content Standard	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)	Special Attention to SMPs
LT #10-1: I can use radians and degrees to measure angles	HSF-TF.A.1	radian	Algebra 2 Text section 9-2	Mastery-To be created	MP6



and convert between the two units of measure.					
LT #10-2: I can use the unit circle to define trigonometric functions of any angle.	HSF-TF.A.2	Unit Circle, quadrantal angle, reference angle, radius, initial side, terminal side, standard position, coterminal, sector, central angle	Algebra 2 Text section 9-2 and 9-3	Developmental level to be created.	MP5
LT #10-3: I understand the characteristics of trigonometric functions and can represent trigonometric functions graphically.	HSF-IF.C.7e, HSF-BF.B.3	Sine, cosine, amplitude, periodic function, cycle, period, midline	Algebra 2 Text section 9-4	Developmental level to be created.	MP4



DRAFT

Course Title:	Digital Design / Intro to Yearbook	Course Number:	7290
Department / Grade Level:	Career and Technical Education High School	Date:	March 15, 2017

PHILOSOPHY OF INSTRUCTION:

Career and Technical Education (CTE) is learning that works. It prepares learners with diverse backgrounds and experiences for gainful employment and lifelong learning. Via proactive, engaging, flexible, and practical approaches, it provides technical and academic skills students need for career success, playing a foundational role in the overall betterment of society and economy.

CTE instruction must prepare all students to continue to learn in institutions of higher learning and provide quality training and opportunities for entry-level (or above) employment. Coeur d'Alene School District's Career and Technical programs will provide rigorous instruction that integrates multiple academic areas into relevant and innovative ways to keep students interested and excited about their educational goals.

SCOPE AND SEQUENCE:

Quarter 1	Quarter 2
Intro to technology Typing Project InDesign Unit A InDesign Unit B InDesign Unit C InDesign Unit D InDesign Unit E InDesign Unit F InDesign Unit G	Photoshop Unit A Photoshop Unit B Photoshop Unit C Photoshop Unit D Photoshop Unit E Create your own yearbook project
*All Program Standards are from Idaho CTE Standards: Idaho Administrative Service Standards **All Enduring Understanding in red also fulfill District Technology Graduation Requirements	

INTRO TO TECHNOLOGY: WELCOME ASSIGNMENT

Estimated Time Frame:	1 week			
Enduring Understandings:	Understanding of day to day functions of the computer, Google Drive, and ethical use in an online environment <i>Digital Citizenship: Students will advocate for, practice and explain the importance of safe, ethical, legal, and responsible use of information and technology.</i>			
Idaho Content Standard	Essential Questions	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)
1.1.1 1.1.3 1.1.4	Compose and send an email with proper professional etiquette	File Explorer Google Drive Google Docs	Internet Computer Google	Welcome Assignment Test



	<p>Navigate and identify personal Google Drive and associated apps such as Docs, and Sheets</p> <p>Locate file explorer on desktop and navigate through folders on computer</p> <p>Locate snip tool in desktop apps to demonstrate accurate finding of materials on computer</p> <p>Identify join code for class website using shared with me section in Google Drive</p>	<p>Google Sheets Shared with me Edmodo.com Email Compose</p>	<p>Digital Citizenship Video https://www.youtube.com/watch?v=2VnAU2lbf2c</p>	
Digital Citizenship	Practice and explain the importance of safe, ethical, legal, and responsible use of information and technology.			

TYPING PROJECT: TESTS AND LESSONS

Estimated Time Frame:	10 weeks			
Enduring Understandings:	Students will demonstrate the ability to touch type 35 wpm with 95% accuracy or higher on a 3-minute test and 45 wpm with 95% accuracy or higher 5-minute test. The first 20 minutes of each class is allocated to finish typing tests or lessons.			
<u>Idaho Content Standard</u>	Essential Questions	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)
1.1.7	Can students touch type 35 wpm with 95% accuracy or higher on a 3 minute test and 45 wpm with 95% accuracy or higher 5 minute test.	Words per minute Accuracy Intermediate Lessons Advanced Lessons	Typing.com	3 minute test 5 minute test



UNIT A-G: InDesign CONCEPTS

Estimated Time Frame:	8-10 Weeks			
Enduring Understandings:	<p>Students will become functional in the desktop publishing software called Adobe InDesign. They will work with multiple skills learned to work with, type, color, shapes, page layout. At completion, students will have the skills necessary to create a poster, business card, resume, and magazine page.</p> <p>Research Skills and Critical Thinking, Creativity, and Innovation</p> <p>Students will create a graphical resume using the design concepts and features learned. They will research a career field of their interest and complete the graphical resume and export it in a readable format.</p>			
Idaho Content Standard	Essential Questions	Key Terms	Resources Needed	Assessment (Tie to Enduring Understandings)
1.0 1.1: 1.1.1 1.1.2. 1.1.3. 1.1.4. 1.1.5. 1.1.6. 1.1.7. 3.0: 3.1: 3.1.4. 4.0: 4.1: 4.1.1. 6.0: 6.1: 6.1.6. 6.1.7. 7.0: 7.1 7.1.1 7.1.2. 8.0: 8.1: 8.1.1. 8.1.2. 8.1.5. 9.0: 9.1:	<p>Unit A</p> <p>Understand page layout software</p> <p>Start InDesign</p> <p>Explore the Indesign workspace</p> <p>Create a new document</p> <p>Name and saving document</p> <p>Work with panels</p> <p>Work with guides</p> <p>Understand export options for Indesign</p> <p>Unit B</p> <p>Create text boxes</p> <p>Place and flow text</p> <p>Format text</p> <p>Format paragraphs</p> <p>Create and apply paragraph styles</p> <p>Modify a paragraph styles</p> <p>Create and apply character styles</p> <p>Find and change text</p> <p>Track changes</p> <p>Unit C</p> <p>Create an object</p> <p>Transform an object</p> <p>Arrange and lock an object</p> <p>Step and repeat an object</p> <p>Use live distribute</p> <p>Use the direct Selection Tool</p>	<ul style="list-style-type: none"> ● Unit A ● Page layout software ● Swatches ● Libraires ● Document lab ● Menu bar ● Control Panel ● Tools panel ● Panels ● Document window ● Bleeding ● Pasteboard ● Rulers ● Status Bar ● Preset ● Pixels ● Spreads ● Margin Guides ● .indd ● Normal Mode ● Preview Mode ● Docking ● Page Guides ● Spread Guides 	InDesign	<p>Unit A-C Test</p> <p>InDesign Test</p> <p>Graphical Resume</p> <p>Concert Poster</p> <p>Training Units:</p> <p>A: 1,2,3</p> <p>B: 1,2,3,RL (Real Life)</p> <p>VS (Visual Workshop)</p> <p>C: 1,2,RL,VS</p> <p>D:1,2,RL,VS</p> <p>E: 1,3,RL,VS</p> <p>F: 1,3,RL</p> <p>G: 1,2,VS</p>



Modify corners and strokes
Create a multi-state object

Unit D

Understand bitmap and vector graphics
Place a graphic into a frame
Work with the content indicator
Transform frame contents
Use the links panel
Replace a linked image and embed a file
Add graphics to a library

Unit E

Create a multipage document
Create master items
Override master items
Modify a master page
Create a new master page
Apply master pages
Work with master pages

Unit F

Place an object on a layer
Change layer options
Create a new layer
Duplicate a layer
Lock and hide a layer
Move an object to another layer
Change layer order

Unit G

Create a process color
Select a spot color
Create a gradient
Use the swatch tool
Create a table
Format table cells
Insert, merge, and split table cells
Set tabs in a table

- Grid
- Baseline
- Grid
- Document
- Grid
- **Unit B**
- Reference
- Point
- Threading
- Typeface
- Font
- Kerning
- Tracking
- Em space
- Paragraphs
- Leading
- Alignment
- Hidden
- Character
- Path
- Vector
- Paragraph
- Styles
- Indent
- Placeholder
- Text
- Bullets
- **Unit C**
- Point of
- Origin
- Group
- Distribute
- Align
- States
- **Unit D**
- Bitmap
- Pixels
- Vector
- Graphs
- Vector
- Anchor
- points
- Resolution
- Content
- indicator
- Cropping
- Preview
- Library
- **Unit E**



- Master Items
- Primary text frame
- Detach
- Island Spreads
- **Unit F**
- Layers
- Page Item
- Selection Color
- Targeting
- Merge
- **Unite G**
- Gradient fill
- Process color
- CMYK
- Spot colors
- Gradient
- Linear
- Radial
- Color Stops
- Table
- Cells
- Rows
- Columns
- Inset
- Merge
- Split
- Tab Stops
- Justify

Creativity & Innovation

Evaluate and interpret existing knowledge to generate new ideas, products, or processes.

Research Skills & Critical Thinking

Create original works as a means of personal or group expression using multiple resources and formats.



PHOTOSHOP UNITS 1-5

Estimated Time Frame:	2-4 Weeks			
Enduring Understandings:	<p>Students will crop out items from images, and gain the ability to transfer and export files in different formats between Adobe programs and files within Photoshop. Students will learn filters to manipulate quality and color as well as creating 3 dimensional effects that can used to enhance desktop publishing projects. Students will create a selection of their own keyboard shortcuts for Photoshop.</p> <p>Computer Science, Research Skills and Critical Thinking, Creativity and Innovation Students will create a set of their own personal keyboard macros to aid them in Photoshop tasks. They will research appropriate images for the tasks being asked of them such as cropping. They will practice applying filters to photos of low quality to enhance, and combining them to form a new image. Students will learn the value of using Adobe products in coordination to improve design skills, and the value of researching effects that they can enhance to make their own and use on their assignments.</p>			
<u>Idaho Content Standard</u>	Essential Questions	Key Terms	Resources Needed	<u>Assessment</u> (Tie to Enduring Understandings)
2.1.4. 2.1.6. 2.1.7. 2.1.8. 7.1.1. 7.1.4. 6.1.1 6.1.2 6.1.3 6.1.4. 6.1.5 6.1.6. 6.1.7.	<p>Can you crop out the background around an image and save it in the proper file format.</p> <p>Apply camera raw and dehaze filters to photos in need of it, and identify the proper photo to use them on.</p> <p>Export cropped and edited files in the proper format.</p> <p>Transfer files between different Photoshop documents and other Adobe documents.</p> <p>Edit photo quality by using clone stamp and healing brush tools.</p> <p>Apply self created keyboarding shortcuts to serve the student.</p>	<ul style="list-style-type: none"> ● Searching and opening files using file explorer ● Download file ● Crop image ● Identify file types ● Saving files to computer drive ● Uploading files ● Quick selection ● Lasso tool ● Pen tool ● Spot healing brush ● Clone stamp ● Camera Raw filter ● Dehaze Filter ● Eyedropper ● History brush ● Patch tool 	<ul style="list-style-type: none"> ● Photoshop ● Google drive ● Computer 	<p>Create a creature test</p> <p>Color Test</p> <p>3-D Pop-Out</p>



Computer Science	Identify common tasks that are performed in Photoshop and create personal keyboard macros to assist.			
Creativity and Innovation	Create original works by using Photoshop filters and editing tools. Perform advanced skills by combining Photoshop tools and InDesign tools to create an original object and format.			
Research Skills and Critical Thinking	Collect and analyze results through searches of multiple objects to create a new original work. Identify different file types and which are usable and acceptable to create original works.			
YEARBOOK PROJECT				
Estimated Time Frame:	5 weeks	<u>Thinking Strategies:</u>		
Enduring Understandings:	Students will be broken into groups and each group will create their own 80 page yearbook. They will use a jigsaw learning approach by collaborating and delegating different aspects of the project and create their own pieces and at the end will combine into a finished product.			
	Research Skills and Critical Thinking, Creativity and Innovation, Digital Citizenship, Communication and Collaboration, Technology Operations and Concepts			
	Students will research different themes, layouts, styles to create an original theme for their project. Through collaboration each will complete different parts of the project to combine at the end. Students will conduct research using hard copy materials provided by the instructor, as well as safe search items, and items provided by creative commons maintaining copyright law. Using combinations of technologies such as Google Drive, InDesign, and Photoshop the students will collaborate in creating a original project.			
<u>Idaho Content Standard</u>	Essential Questions	Key Terms	Resources Needed	<u>Assessment</u> (Tie to Enduring Understandings)
2.1.4. 2.1.6. 2.1.7. 2.1.8. 7.1.1.	Inserting and combining pages using different resources	<ul style="list-style-type: none"> ● Master page ● Cover ● Facing pages ● Master page ● Theme 	<ul style="list-style-type: none"> ● Computer ● InDesign ● Photoshop ● Google 	Yearbook Project Peer Evaluation



<p>7.1.4. 6.1.1 6.1.2 6.1.3 6.1.4. 6.1.5 6.1.6. 6.1.7.</p>	<p>Create page templates for use by yourself and group members</p> <p>Create ladder mapping out contents of project and delegate work to group members</p> <p>Caption photos, and create consistent graphical theme that is present throughout project.</p> <p>Use design concepts of alignment proximity and repetition in designing pages.</p> <p>Exporting files in proper format to and combining them into one document.</p>	<ul style="list-style-type: none">● Graphic Elements● Folio● Table of Contents● Title● Portraits● MOD● Divider Pages● Advertisement s● Caption● Text● Spreads● Deadlines● Layouts● Templates● Ladder● Opening resources● Naming files● Change file type● Saving files● Creating folders● Saving folders and files● Creating pages● Facing pages option● Creating a layout with toolbar essentials● Placing needed tools into document● Research with outside sources● Placing images● Downloading images● Importing Images● Interviewing● Creating folios and placing		
----------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--



		them on each page		
Technology Operations and Concepts	<p>Students will use a variety of different technologies to complete different aspects of the project.</p> <p>Students will identify the appropriate technology to complete assigned task.</p>			
Research Skills and Critical Thinking	<p>Research examples of different yearbooks, magazines, and newsletters to formulate original ideas for project.</p> <p>Work on delegated work on separate computers and then combine them on one document using Google Drive to share files.</p>			
Creativity and Innovation	<p>Brainstorm in a group setting original ideas to create a consistent theme for the project.</p> <p>Create new graphics and features to fit group theme in InDesign</p>			
Digital Citizenship	<p>Appropriate use of fair use guidelines following safe search protocols and creative commons resources when searching</p>			
Communication and Collaboration	<p>Students use a jigsaw method by delegating different sections of the project to each other that</p>			



will be combined upon completion.

Students will collaborate on project theme and work to have all group members following that theme in a consistent manner throughout project.