

Adding Additional Online Instruction:

for

Pinnacle Education – WMCB, Inc.

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Mathematics

FYI Mathematics Curriculum Philosophy: K.J. Travers has said, "Mathematics is useful, mathematics is beautiful, and mathematics disciplines the mind." FYI's math courses are not just numbers, equations, and rules; rather they provide an opportunity for students to explore, imagine, and grow. Students will learn to think critically and solve problems mathematically. More than that, they will gain confidence from the process of exploring and building knowledge.

The FYI Math Curriculum, in meeting the Common Core Standards in mathematics seeks to provide students with experiences that are rich in rigor and complexity. In challenging our students, all mathematics teachers should strive to have their students develop the following abilities: problem solving, reasoning and proof, communication, representation, and connections.

These are known as the NCTM (National Council of Teachers of Mathematics) process standards. In addition to the process standards, the National Research Council stated that in order to be mathematically proficient students should be able to develop deep conceptual understanding, exhibit procedural fluency, demonstrate strategic competence, show adaptive reasoning, and have productive disposition.

Curriculum Planning Document

Algebra 1 Content Area/ Grade Level: Math/High School

Algebra I/ Algebra I Honors

The purpose of this course is to develop the algebraic concepts and processes that can be used to solve a variety of real-world and mathematical problems. Upon successful completion of this course a student will understand operations with real numbers, linear equations and inequalities, relations & functions, pairs of linear equations & inequalities, polynomials, algebraic fractions, and exponents and radicals.

Algebra 1A	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: The Real Number System			
Cluster: Use properties of rational and irrational numbers.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Quantities			
Cluster: Reason quantitatively and use units to solve problems.	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	
Domain: Vector and Matrix Quantities			
Cluster: Perform operations on matrices and use matrices in applications.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Seeing Structure in Expressions			
Cluster: Interpret the structure of expressions	Interactive Video Lesson Topics	Powerpoint Presentation	
Cluster: Write expressions in equivalent forms to solve problems	Interactive Video Lesson Topics	Powerpoint Presentation	
Domain: Creating Equations			
Cluster: Create equations that describe numbers or relationships	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Reasoning with Equations and Inequalities			
Cluster: Understand solving equations as a process of reasoning and explain the reasoning	Interactive Video Lesson Topics	Adaptive Lesson Quizes	Instructor Intervention
Cluster: Solve equations and inequalities in one variable	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Interpreting Functions			

Algebra 1A	Educational Delivery Methodologies	Evidence of Mastery	Comments
Cluster: Understand the concept of a function and use function notation	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Cluster: Interpret functions that arise in applications in terms of the context	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Cluster: Analyze functions using different representations	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Domain: Building Functions			
Cluster: Build a function that models a relationship between two quantities	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	Instructor Intervention
Domain: Linear, Quadratic, and Exponential Models			
Cluster: Construct and compare linear, quadratic, and exponential models and solve problems	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Domain: Similarity, Right Triangles, and Trigonometry			
Cluster: Define trigonometric ratios and solve problems involving right triangles	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Domain: Expressing Geometric Properties with Equations			
Cluster: Use coordinates to prove simple geometric theorems algebraically	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizzes	
Domain: Interpreting Categorical and Quantitative Data			
Cluster: Summarize, represent, and interpret data on a single count or measurement variable	Interactive Study Guide Practice with Feedback Explanation Videos	Project Adaptive Lesson Quizzes	
Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables	Interactive Video Lesson Topics	Project Adaptive Lesson Quizzes	
Cluster: Interpret linear models	Interactive Video Lesson Topics	Project Adaptive Lesson Quizzes	
Domain: Making Inferences and Justifying Conclusions			
Cluster: Understand and evaluate random processes	Interactive Study Guide Practice with Feedback	Project Chapter exam	

Algebra 1A	Educational Delivery Methodologies	Evidence of Mastery	Comments
underlying statistical experiments	Explanation Videos	Mastery Checkpoint	
Domain: Conditional Probability and the Rules of Probability			
Cluster: Understand independence and conditional probability and use them to interpret data	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Use the rules of probability to compute probabilities of compound events in a uniform probability model	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	

Algebra 1B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: The Real Number System			
Cluster: Extend the properties of exponents to rational exponents.	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	
Cluster: Use properties of rational and irrational numbers.	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	
Domain: Seeing Structure in Expressions			
Cluster: Interpret the structure of expressions	Interactive Video Lesson Topics	Powerpoint Presentation	
Cluster: Write expressions in equivalent forms to solve problems	Interactive Video Lesson Topics	Powerpoint Presentation	
Domain: Arithmetic with Polynomials and Rational Expressions			
Cluster: Perform arithmetic operations on polynomials.	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Rewrite rational expressions	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Domain: Creating Equations			
Cluster: Create equations that describe numbers or relationships	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Domain: Reasoning with Equations and Inequalities			

Algebra 1B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Cluster: Understand solving equations as a process of reasoning and explain the reasoning	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Solve equations and inequalities in one variable	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Solve systems of equations	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Represent and solve equations and inequalities graphically	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Interpreting Functions			
Cluster: Understand the concept of a function and use function notation	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Analyze functions using different representations	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Building Functions			
Cluster: Build a function that models a relationship between two quantities	Interactive Video Lesson Topics	Adaptive Lesson Quizes	Instructor intervention
Domain: Linear, Quadratic, and Exponential Models			
Cluster: Construct and compare linear, quadratic, and exponential models and solve problems	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	
Domain: Similarity, Right Triangles, and Trigonometry			
Cluster: Define trigonometric ratios and solve problems involving right triangles	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Interpreting Categorical and Quantitative Data			
Cluster: Summarize, represent, and interpret data on a single count or measurement variable	Interactive Study Guide Practice with Feedback Explanation Videos	Project Adaptive Lesson Quizes	
Domain: Conditional Probability and the Rules of Probability			
Cluster: Use the rules of probability to compute	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	Instructor intervention

Algebra 1B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Probabilities of compound events in a uniform probability model	Explanation Videos	Adaptive Test	Planned

Curriculum Planning Document

Geometry 1 Content Area/ Grade Level: Math/High School

Geometry/ Geometry Honors

The purpose of this course is to develop the geometric relationships and deductive strategies that can be used to solve a variety of real world and mathematical problems. Upon successful completion of this course, a student will understand lines, triangles, quadrilaterals, polygons, circles, and other geometrical concepts such as congruence, similarity, area, and volume. Deductive reasoning and the role of proof in mathematics are strongly emphasized in this course.

Geometry A	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: Quantities			
Cluster: Reason quantitatively and use units to solve problems.	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	
Domain: Creating Equations			
Cluster: Create equations that describe numbers or relationships.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Reasoning with Equations and Inequalities			
Cluster: Understand solving equations as a process of reasoning and explain the reasoning	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Solve equations and inequalities in one variable	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Solve systems of equations	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Represent and solve equations and inequalities graphically	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Interpreting Functions			
Cluster: Analyze functions using different representations	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Building Functions			
Cluster: Build a function that models a relationship between two quantities	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Congruence			

Geometry A	Educational Delivery Methodologies	Evidence of Mastery	Comments
Cluster: Experiment with transformations in the plane	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	Instructor intervention
Cluster: Understand congruence in terms of rigid motions	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Prove geometric theorems	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	Instructor intervention
Cluster: Make geometric constructions	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Similarity, Right Triangles, and Trigonometry			
Cluster: Prove theorems involving similarity	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Define trigonometric ratios and solve problems involving right triangles	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Expressing Geometric Properties with Equations			
Cluster: Use coordinates to prove simple geometric theorems algebraically	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	
Domain: Geometric Measurement and Dimension			
Cluster: Visualize relationships between two-dimensional and three dimensional objects	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Domain: Modeling with Geometry			
Cluster: Apply geometric concepts in modeling situations	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	Instructor intervention

Geometry B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: The Real Number System			
Cluster: Extend the properties of exponents to rational exponents.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Quantities			

Geometry B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Cluster: Reason quantitatively and use units to solve problems.	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	
Domain: Vector and Matrix Quantities			
Cluster: Perform operations on vectors.	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	Instructor intervention
Domain: Seeing Structure in Expressions			
Cluster: Write expressions in equivalent forms to solve problems	Interactive Study Guide Practice with Feedback	Powerpoint Presentation	Continuous throughout course
Domain: Creating Equations			
Cluster: Create equations that describe numbers or relationships	Interactive Video Lesson Topics	Powerpoint Presentation Adaptive Lesson	Continuous throughout course
Domain: Reasoning with Equations and Inequalities			
Cluster: Solve equations and inequalities in one variable	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Trigonometric Functions			
Cluster: Extend the domain of trigonometric functions using the unit circle	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Domain: Congruence			
Cluster: Experiment with transformations in the plane	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Understand congruence in terms of rigid motions	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Prove geometric theorems	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Similarity, Right Triangles, and Trigonometry			
Cluster: Understand similarity in terms of similarity transformations	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Prove theorems involving similarity	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Define trigonometric	Interactive Study Guide	Presentation	

Geometry B	Educational Delivery Methodologies	Evidence of Mastery	Comments
ratios and solve problems involving right triangles	Practice with Feedback Explanation Videos	Adaptive Lesson Quizzes	
Cluster: Apply trigonometry to general triangles	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizzes	
Domain: Circles			
Cluster: Understand and apply theorems about circles	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Cluster: Find arc lengths and areas of sectors of circles	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Domain: Expressing Geometric Properties with Equations			
Cluster: Translate between the geometric description and the equation for a conic section	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizzes	
Domain: Geometric Measurement and Dimension			
Cluster: Explain volume formulas and use them to solve problems	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	Instructor intervention
Cluster: Visualize relationships between two-dimensional and three dimensional objects	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	
Domain: Modeling with Geometry			
Cluster: Apply geometric concepts in modeling situations	Interactive Video Lesson Topics	Adaptive Lesson Quizzes	Instructor intervention

Algebra II/ Algebra II Honors

The purpose of this course is to continue the study of algebra and to provide the foundation for applying algebraic skills to other mathematical and scientific fields. Upon successful completion of this course a student will understand relations & functions, absolute value, quadratic functions, conic sections, polynomials, algebraic fractions, logarithmic & exponential functions, sequences & series, counting principles & probability.

Algebra 2A	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: The Real Number System			
Cluster: Use properties of rational and irrational numbers.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: The Complex Number System			
Cluster: Perform arithmetic operations with complex numbers.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Represent complex numbers and their operations on the complex plane.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Use complex numbers in polynomial identities and equations.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Vector and Matrix Quantities			
Cluster: Perform operations on vectors.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Perform operations on matrices and use matrices in applications.	Interactive Video Lesson Topics Use Graphing Calculator	Adaptive Lesson Quizes Graphing Calc Activity	
Domain: Seeing Structure in Expressions			
Cluster: Interpret the structure of expressions	Interactive Study Guide Practice with Feedback	Powerpoint Presentation	Continuous throughout

Algebra 2A	Educational Delivery Methodologies	Evidence of Mastery	Comments
			course
Cluster: Write expressions in equivalent forms to solve problems	Interactive Study Guide Practice with Feedback	Powerpoint Presentation	Continuous throughout course
Domain: Arithmetic with Polynomials and Rational Expressions			
Cluster: Perform arithmetic operations on polynomials	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Understand the relationship between zeros and factors of polynomials	Interactive Video Lesson Topics	Adaptive Lesson Quizes	Instructor intervention
Cluster: Use polynomial identities to solve problems	Interactive Video Lesson Topics	Adaptive Lesson Quizes	Instructor intervention
Cluster: Rewrite rational expressions	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Creating Equations			
Cluster: Create equations that describe numbers or relationships	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Reasoning with Equations and Inequalities			
Cluster: Solve equations and inequalities in one variable	Interactive Video Lesson Topics	Graphing Calc Activity Portfolio Project Mastery Checkpoint	
Cluster: Solve systems of equations	Interactive Video Lesson Topics	Graphing Calc Activity Adaptive Lesson Quizes	
Cluster: Represent and solve equations and inequalities graphically	Interactive Video Lesson Topics	Powerpoint Presentation and Instructor Intervention	
Domain: Interpreting Function			
Cluster: Understand the concept of a function and use function notation	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Interpret functions that arise in applications in terms of the context	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Analyze functions	Interactive Study Guide	Presentation	

Algebra 2A	Educational Delivery Methodologies	Evidence of Mastery	Comments
using different representations	Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	
Domain: Building Functions			
Cluster: Build a function that models a relationship between two quantities	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Build new functions from existing functions	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Linear, Quadratic, and Exponential Models			
Cluster: Construct and compare linear, quadratic, and exponential models and solve problems	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Cluster: Interpret expressions for functions in terms of the situation they model	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Congruence			
Cluster: Experiment with transformations in the plane	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Expressing Geometric Properties with Equations			
Cluster: Use coordinates to prove simple geometric theorems algebraically	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	
Domain: Modeling with Geometry			
Cluster: Apply geometric concepts in modeling situations	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Interpreting Categorical and Quantitative Data			
Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables	Interactive Study Guide Practice with Feedback Explanation Videos	Presentation Adaptive Lesson Quizes	
Cluster: Interpret linear models	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Domain: Making Inferences and Justifying Conclusions			
Cluster: Understand and evaluate random processes	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	Instructor intervention

Algebra 2A	Educational Delivery Methodologies	Evidence of Mastery	Comments
underlying statistical experiments	Explanation Videos		planned
Domain: Conditional Probability and the Rules of Probability			
Cluster: Understand independence and conditional probability and use them to interpret data	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	
Cluster: Use the rules of probability to compute probabilities of compound events in a uniform probability model	Interactive Video Lesson Topics	Adaptive Lesson Quizes	

Algebra 2B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: The Real Number System			
Cluster: Extend the properties of exponents to rational exponents.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Quantities			
Cluster: Reason quantitatively and use units to solve problems.	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Seeing Structure in Expressions			
Cluster: Interpret the structure of expressions	Interactive Video Lesson Topics	Powerpoint Presentation Adaptive Lesson Quizes	
Cluster: Write expressions in equivalent forms to solve problems	Interactive Video Lesson Topics	Powerpoint Presentation Adaptive Lesson Quizes	
Domain: Creating Equations			
Cluster: Create equations that describe numbers or relationships	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Reasoning with Equations and Inequalities			
Cluster: Understand solving equations as a process of reasoning and explain the reasoning	Interactive Video Lesson Topics	Adaptive Lesson Quizes	

Algebra 2B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: Interpreting Function			
Cluster: Understand the concept of a function and use function notation	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Interpret functions that arise in applications in terms of the context	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Analyze functions using different representations	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Building Functions			
Cluster: Build a function that models a relationship between two quantities	Interactive Video Lesson Topics	Presentation Adaptive Lesson Quizes	
Cluster: Build new functions from existing functions	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Linear, Quadratic, and Exponential Models			
Cluster: Construct and compare linear, quadratic, and exponential models and solve problems	Interactive Video Lesson Topics	Adaptive Lesson Quizes	Instructor intervention
Cluster: Interpret expressions for functions in terms of the situation they model	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Trigonometric Functions			
Cluster: Extend the domain of trigonometric functions using the unit circle	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Congruence			
Cluster: Experiment with transformations in the plane	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Similarity, Right Triangles, and Trigonometry			
Cluster: Apply trigonometry to general triangles	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Circles			
Cluster: Find arc lengths and areas of sectors of circles	Interactive Video Lesson Topics	Adaptive Lesson Quizes	

Algebra 2B	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: Expressing Geometric Properties with Equations			
Cluster: Translate between the geometric description and the equation for a conic section	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	
Cluster: Use coordinates to prove simple geometric theorems algebraically	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Modeling with Geometry			
Cluster: Explain volume formulas and use them to solve problems	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Interpreting Categorical and Quantitative Data			
Cluster: Summarize, represent, and interpret data on a single count or measurement variable	Interactive Study Guide Practice with Feedback Explanation Videos	Project Adaptive Lesson Quizes	Instructor intervention
Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	Instructor intervention
Domain: Making Inferences and Justifying Conclusions			
Cluster: Make inferences and justify conclusions from sample surveys, experiments, and observational studies	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Conditional Probability and the Rules of Probability			
Cluster: Understand independence and conditional probability and use them to interpret data	Interactive Study Guide Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	
Cluster: Use the rules of probability to compute probabilities of compound events in a uniform probability model	Interactive Video Lesson Topics	Adaptive Lesson Quizes	
Domain: Using Probability to Make Decisions			
Cluster: Calculate expected values and use them to solve problems	Interactive Video Lesson Topics	Project Adaptive Lesson Quizes	Instructor intervention
Cluster: Use probability to	Interactive Study Guide	Project	* discussion

Algebra 2B	Educational Delivery Methodologies	Evidence of Mastery	Comments
evaluate outcomes of decisions	Practice with Feedback Explanation Videos	Adaptive Lesson Quizes	forum planned

Curriculum Planning Document

Pre-calculus Content Area/ Grade Level: Math/High School

Pre-Calculus/ Pre-Calculus Honors :

This course enables students to develop concepts and skills in advanced algebra, analytic geometry, and trigonometry. The course covers the traditional topics needed as a preparation for calculus and other higher math classes. Students learn polynomial and rational functions, logarithmic and exponential functions, right triangle trig, the trigonometric functions, trig equations, and trig identities, polar coordinates and complex numbers, sequences and series, and data analysis.

Precalculus	Educational Delivery Methodologies	Evidence of Mastery	Comments
Domain: The Complex Number System			
Cluster: Perform arithmetic operations with complex numbers.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	Instructor intervention
Cluster: Represent complex numbers and their operations on the complex plane.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Use complex numbers in polynomial identities and equations.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Vector and Matrix Quantities			
Cluster: Represent and model with vector quantities.	Interactive Study Guide Practice with Feedback	Presentation Adaptive Lesson Quizes	Instructor intervention
Cluster: Perform operations on vectors.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Perform operations on matrices and use matrices in applications.	Interactive Study Guide Practice with Feedback	Project Adaptive Lesson Quizes	
Domain: Arithmetic with Polynomials and Rational Expressions			
Cluster: Use polynomial identities to solve problems.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Rewrite rational expressions.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Reasoning with Equations and Inequalities			
Cluster: Solve systems of equations.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Interpreting Functions			
Cluster: Analyze functions using different representation.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	

Domain: Building Functions			
Cluster: Build a function that models a relationship between two quantities.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Build new functions from existing functions.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Trigonometric Functions			
Cluster: Extend the domain of trigonometric functions using the unit circle.	Interactive Study Guide Practice with Feedback	Project Adaptive Lesson Quizes	
Cluster: Model periodic phenomena with trigonometric functions.	Interactive Study Guide Practice with Feedback	Project Adaptive Lesson Quizes	
Cluster: Prove and apply trigonometric identities.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	Instructor intervention
Domain: Circles			
Cluster: Apply trigonometry to general triangles.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Understand and apply theorems about circles.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Expressing Geometric Properties with Equations			
Cluster: Translate between the geometric description and the equation for a conic section.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: : Geometric Measurement and Dimension			
Cluster: Explain volume formulas and use them to solve problems.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Conditional Probability and the Rules of Probability			
Cluster: Use the rules of probability to compute probabilities of compound events in a uniform probability model.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Domain: Using Probability to Make Decisions			
Cluster: Calculate expected values and use them to solve problems.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	
Cluster: Use probability to evaluate outcomes of decisions.	Interactive Study Guide Practice with Feedback	Adaptive Lesson Quizes	Instructor intervention

Domain: Contemporary Mathematics: Discrete Mathematics			
Cluster: Understand and apply vertex-edge graph topics.	Interactive Study Guide Practice with Feedback	Project Adaptive Lesson Quizes	

Arizona's Common Core Standards

Mathematics	Standards Addressed in Course
Domain: The Real Number System	
Cluster: Extend the properties of exponents to rational exponents.	Algebra 1 Geometry Algebra
Cluster: Use properties of rational and irrational numbers.	Algebra 1 Algebra
Domain: Quantities	
Cluster: Reason quantitatively and use units to solve problems.	Algebra 1 Geometry Algebra
Domain: The Complex Number System	
Cluster: Perform arithmetic operations with complex numbers.	Algebra 2 Precalculus
Cluster: Represent complex numbers and their operations on the complex plane.	Algebra 2 Precalculus
Cluster: Use complex numbers in polynomial identities and equations.	Algebra 2 Precalculus
Domain: Vector and Matrix Quantities	
Cluster: Represent and model with vector quantities.	Precalculus
Cluster: Perform operations on vectors.	Algebra 1 Geometry Algebra 2 Precalculus
Cluster: Perform operations on matrices and use matrices in applications.	Algebra 2 Precalculus
Domain: Seeing Structure in Expressions	
Cluster: Interpret the structure of expressions	Algebra 1 Algebra
Cluster: Write expressions in equivalent forms to solve problems	Algebra 1 Geometry Algebra
Domain: Arithmetic with Polynomials and Rational	

Mathematics	Standards Addressed in Course
Expressions	
Cluster: Perform arithmetic operations on polynomials	Algebra 1 Algebra 2
Cluster: Understand the relationship between zeros and factors of polynomials	Algebra 2
Cluster: Use polynomial identities to solve problems	Algebra 2 Precalculus
Cluster: Rewrite rational expressions	Algebra 1 Algebra 2 Precalculus
Domain: Creating Equations	
Cluster: Create equations that describe numbers or relationships	Algebra 1 Geometry Algebra
Domain: Reasoning with Equations and Inequalities	
Cluster: Understand solving equations as a process of reasoning and explain the reasoning	Algebra 1 Geometry Algebra 2
Cluster: Solve equations and inequalities in one variable	Algebra 1 Geometry Algebra 2
Cluster: Solve systems of equations	Algebra 1 Geometry Algebra 2 Precalculus
Cluster: Represent and solve equations and inequalities graphically	Algebra 1 Geometry Algebra 2
Domain: Interpreting Function	
Cluster: Understand the concept of a function and use function notation	Algebra 1 Algebra 2
Cluster: Interpret functions that arise in applications in terms of the context	Algebra 1 Algebra
Cluster: Analyze functions using different representations	Algebra 1 Geometry Algebra 2 Precalculus

Mathematics	Standards Addressed in Course
Domain: Building Functions	
Cluster: Build a function that models a relationship between two quantities	Algebra 1 Geometry Algebra 2 Precalculus
Cluster: Build new functions from existing functions	Algebra 2 Precalculus
Domain: Linear, Quadratic, and Exponential Models	
Cluster: Construct and compare linear, quadratic, and exponential models and solve problems	Algebra 1 Algebra 2
Cluster: Interpret expressions for functions in terms of the situation they model	Algebra
Domain: Trigonometric Functions	
Cluster: Extend the domain of trigonometric functions using the unit circle	Geometry Algebra 2 Precalculus
Cluster: Model periodic phenomena with trigonometric functions	Precalculus
Cluster: Prove and apply trigonometric identities	Precalculus
Domain: Congruence	
Cluster: Experiment with transformations in the plane	Geometry Algebra 2
Cluster: Understand congruence in terms of rigid motions	Geometry
Cluster: Prove geometric theorems	Geometry
Cluster: Make geometric constructions	Geometry
Domain: Similarity, Right Triangles, and Trigonometry	
Cluster: Understand similarity in terms of similarity transformations	Geometry
Cluster: Prove theorems involving similarity	Geometry
Cluster: Define trigonometric ratios and solve problems	Algebra 1 Geometry

Mathematics	Standards Addressed in Course
involving right triangles	
Cluster: Apply trigonometry to general triangles	Geometry Algebra 2
Domain: Circles	
Cluster: Understand and apply theorems about circles	Geometry Precalculus
Cluster: Find arc lengths and areas of sectors of circles	Geometry Algebra 2 Precalculus
Domain: Expressing Geometric Properties with Equations	
Cluster: Translate between the geometric description and the equation for a conic section	Geometry Algebra 2 Precalculus
Cluster: Use coordinates to prove simple geometric theorems algebraically	Algebra 1 Geometry Algebra 2
Domain: Geometric Measurement and Dimension	
Cluster: Explain volume formulas and use them to solve problems	Geometry Algebra 2 Precalculus
Cluster: Visualize relationships between two-dimensional and three-dimensional objects	Geometry
Domain: Modeling with Geometry	
Cluster: Apply geometric concepts in modeling situations	Geometry Algebra 2
Domain: Interpreting Categorical and Quantitative Data	
Cluster: Summarize, represent, and interpret data on a single count or measurement variable	Algebra 1 Algebra 2
Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables	Algebra 1 Algebra 2
Cluster: Interpret linear models	Algebra 1 Algebra 2
Domain: Making Inferences and Justifying Conclusions	
Cluster: Understand and	Algebra 1

Mathematics	Standards Addressed in Course
evaluate random processes underlying statistical experiments	Algebra
Cluster: Make inferences and justify conclusions from sample surveys, experiments, and observational studies	Algebra 2
Domain: Conditional Probability and the Rules of Probability	
Cluster: Understand independence and conditional probability and use them to interpret data	Algebra 1 Algebra 2
Cluster: Use the rules of probability to compute probabilities of compound events in a uniform probability model	Algebra 1 Algebra 2 Precalculus
Domain: Using Probability to Make Decisions	
Cluster: Calculate expected values and use them to solve problems	Algebra 2 Precalculus
Cluster: Use probability to evaluate outcomes of decisions	Algebra 2 Precalculus
Domain: Discrete Mathematics	
Cluster: Understand and apply vertex-edge graph topics	Precalculus

The following Mathematical Practices are continuous throughout all mathematics courses:

- HS.MP.1. Make sense of problems and persevere in solving them.
- HS.MP.2. Reason abstractly and quantitatively.
- HS.MP.3. Construct viable arguments and critique the reasoning of others.
- HS.MP.4. Model with mathematics.
- HS.MP.5. Use appropriate tools strategically.
- HS.MP.6. Attend to precision.
- HS.MP.7. Look for and make use of structure.
- HS.MP.8. Look for and express regularity in repeated reasoning.

