

## CCSS INTEGRATED PATHWAY MATH II CONTENT MAP

<b>Unit 1: Extending the Number System</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Working with the Number System</b>		
	1.1.1	Defining, Rewriting, and Evaluating Rational Exponents	N–RN.1 N–RN.2
	1.1.2	Rational and Irrational Numbers and Their Properties	N–RN.2 N–RN.3
<b>Lesson 2</b>	<b>Operating with Polynomials</b>		
	1.2.1	Adding and Subtracting Polynomials	A–APR.1
	1.2.2	Multiplying Polynomials	A–APR.1
<b>Lesson 3</b>	<b>Operating with Complex Numbers</b>		
	1.3.1	Defining Complex Numbers, $i$ , and $i^2$	N–CN.1
	1.3.2	Adding and Subtracting Complex Numbers	N–CN.2
	1.3.3	Multiplying Complex Numbers	N–CN.2
<b>Unit 2: Quadratic Functions and Modeling</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Analyzing Quadratic Functions</b>		
	2.1.1	Graphing Quadratic Functions	F–IF.7a★
	2.1.2	Interpreting Various Forms of Quadratic Functions	F–IF.7a★ F–IF.8a
<b>Lesson 2</b>	<b>Interpreting Quadratic Functions</b>		
	2.2.1	Interpreting Key Features of Quadratic Functions	F–IF.4★
	2.2.2	Identifying the Domain of a Quadratic Function	F–IF.5★
	2.2.3	Identifying the Average Rate of Change	F–IF.6★
<b>Lesson 3</b>	<b>Building Functions</b>		
	2.3.1	Building Functions from Context	F–BF.1a★
	2.3.2	Operating on Functions	F–BF.1b★
<b>Lesson 4</b>	<b>Graphing Other Functions</b>		
	2.4.1	Square Root and Cube Root Functions	F–IF.7b★
	2.4.2	Absolute Value and Step Functions	F–IF.7b★
	2.4.3	Piecewise Functions	F–IF.7b★
<b>Lesson 5</b>	<b>Analyzing Functions</b>		
	2.5.1	Analyzing Exponential Functions	F–IF.8b
	2.5.2	Comparing Properties of Functions Given in Different Forms	F–IF.9 F–LE.3★
<b>Lesson 6</b>	<b>Transforming Functions</b>		
	2.6.1	Replacing $f(x)$ with $f(x) + k$ and $f(x + k)$	F–BF.3
	2.6.2	Replacing $f(x)$ with $k \cdot f(x)$ and $f(k \cdot x)$	F–BF.3
<b>Lesson 7</b>	<b>Finding Inverse Functions</b>		
	2.7.1	Finding Inverse Functions	F–BF.4a

### Unit 3: Expressions and Equations

Lesson	Sub-lesson number	Title	Standard(s)
Lesson 1	<b>Interpreting Structure in Expressions</b>		
	3.1.1	Identifying Terms, Factors, and Coefficients	A–SSE.1a★
	3.1.2	Interpreting Complicated Expressions	A–SSE.1b★
Lesson 2	<b>Creating and Solving Quadratic Equations in One Variable</b>		
	3.2.1	Taking the Square Root of Both Sides	A–CED.1★ A–REI.4b
	3.2.2	Factoring	A–SSE.2 A–CED.1★ A–REI.4b
	3.2.3	Completing the Square	A–SSE.2 A–CED.1★ A–REI.4a A–REI.4b
	3.2.4	Applying the Quadratic Formula	A–CED.1★ A–REI.4a A–REI.4b
	3.2.5	Solving Quadratic Inequalities	A–SSE.2 A–CED.1★ A–REI.4b
Lesson 3	<b>Creating Quadratic Equations in Two or More Variables</b>		
	3.3.1	Creating and Graphing Equations Using Standard Form	A–CED.2★ A–SSE.3a★
	3.3.2	Creating and Graphing Equations Using the $x$ -intercepts	A–CED.2★ A–SSE.3a★
	3.3.3	Creating and Graphing Equations Using Vertex Form	A–CED.2★ A–SSE.3b★
	3.3.4	Rearranging Formulas	A–CED.4★
Lesson 4	<b>Fundamental Theorem of Algebra</b>		
	3.4.1	Extending Polynomial Identities to Include Complex Numbers	N–CN.8 (+)
	3.4.2	Solving Quadratic Equations with Complex Solutions	N–CN.7 N–CN.9 (+)
Lesson 5	<b>Rational Equations</b>		
	3.5.1	Creating Rational Equations	A–CED.1★
	3.5.2	Graphing Rational Equations	A–CED.2★
	3.5.3	Creating Rational Inequalities	A–CED.1★
Lesson 6	<b>Writing Exponential Expressions in Equivalent Forms</b>		
	3.6.1	Writing Exponential Expressions in Equivalent Forms	A–SSE.3c★
Lesson 7	<b>Solving Systems of Equations</b>		
	3.7.1	Solving Systems Graphically	A–REI.7
	3.7.2	Solving Systems Algebraically	A–REI.7

### Unit 4: Applications of Probability

Lesson	Sub-lesson number	Title	Standard(s)
<b>Lesson 1</b>	<b>Events</b>		
	4.1.1	Describing Events	S–CP.1*
	4.1.2	The Addition Rule	S–CP.7*
	4.1.3	Understanding Independent Events	S–CP.2*
<b>Lesson 2</b>	<b>Conditional Probability</b>		
	4.2.1	Introducing Conditional Probability	S–CP.3* S–CP.5* S–CP.6*
	4.2.2	Using Two-Way Frequency Tables	S–CP.4* S–CP.5* S–CP.6*
	4.2.3	The Multiplication Rule	S–CP.8* (+)
<b>Lesson 3</b>	<b>Combinatorics</b>		
	4.3.1	Combinations and Permutations	S–CP.9* (+)
	4.3.2	Probability with Combinatorics	S–CP.9* (+)
<b>Lesson 4</b>	<b>Making and Analyzing Decisions</b>		
	4.4.1	Making Decisions	S–MD.6* (+)
	4.4.2	Analyzing Decisions	S–MD.7* (+)

### Unit 5: Similarity, Right Triangle Trigonometry, and Proof

Lesson	Sub-lesson number	Title	Standard(s)
<b>Lesson 1</b>	<b>Line Segments</b>		
	5.1.1	Midpoints and Other Points on Line Segments	G–GPE.6
<b>Lesson 2</b>	<b>Investigating Properties of Dilations</b>		
	5.2.1	Investigating Properties of Parallelism and the Center	G–SRT.1a
	5.2.2	Investigating Scale Factors	G–SRT.1b
<b>Lesson 3</b>	<b>Defining and Applying Similarity</b>		
	5.3.1	Defining Similarity	G–SRT.2
	5.3.2	Applying Similarity Using the Angle-Angle (AA) Criterion	G–SRT.3
<b>Lesson 4</b>	<b>Proving Similarity</b>		
	5.4.1	Proving Triangle Similarity Using Side-Angle-Side (SAS) and Side-Side-Side (SSS) Similarity	G–SRT.4
	5.4.2	Working with Ratio Segments	G–SRT.4
	5.4.3	Proving the Pythagorean Theorem Using Similarity	G–SRT.4
	5.4.4	Solving Problems Using Similarity and Congruence	G–SRT.5
<b>Lesson 5</b>	<b>Proving Theorems About Lines and Angles</b>		
	5.5.1	Proving the Vertical Angles Theorem	G–CO.9
	5.5.2	Proving Theorems About Angles in Parallel Lines Cut by a Transversal	G–CO.9

<b>Lesson 6</b>	<b>Proving Theorems About Triangles</b>		
	5.6.1	Proving the Interior Angle Sum Theorem	G–CO.10
	5.6.2	Proving Theorems About Isosceles Triangles	G–CO.10
	5.6.3	Proving the Midsegment of a Triangle	G–CO.10
<b>Lesson 7</b>	5.6.4	Proving Centers of Triangles	G–CO.10
	<b>Proving Theorems About Parallelograms</b>		
<b>Lesson 8</b>	5.7.1	Proving Properties of Parallelograms	G–CO.11
	5.7.2	Proving Properties of Special Quadrilaterals	G–CO.11
	<b>Exploring Trigonometric Ratios</b>		
<b>Lesson 9</b>	5.8.1	Defining Trigonometric Ratios	G–SRT.6
	5.8.2	Exploring Sine and Cosine As Complements	G–SRT.7
<b>Lesson 9</b>	<b>Applying Trigonometric Ratios</b>		
	5.9.1	Calculating Sine, Cosine, and Tangent	G–SRT.8
	5.9.2	Calculating Cosecant, Secant, and Cotangent	G–SRT.8
	5.9.3	Problem Solving with the Pythagorean Theorem and Trigonometry	G–SRT.8
	5.9.4	Proving the Pythagorean Identity	F–TF.8
<b>Unit 6: Circles With and Without Coordinates</b>			
<b>Lesson</b>	<b>Sub-lesson number</b>	<b>Title</b>	<b>Standard(s)</b>
<b>Lesson 1</b>	<b>Introducing Circles</b>		
	6.1.1	Similar Circles and Central and Inscribed Angles	G–C.1 G–C.2
	6.1.2	Chord Central Angles Conjecture	G–C.2
	6.1.3	Properties of Tangents of a Circle	G–C.2
<b>Lesson 2</b>	<b>Inscribed Polygons and Circumscribed Triangles</b>		
	6.2.1	Constructing Inscribed Circles	G–C.3
	6.2.2	Constructing Circumscribed Circles	G–C.3
<b>Lesson 3</b>	6.2.3	Proving Properties of Inscribed Quadrilaterals	G–C.3
	<b>Constructing Tangent Lines</b>		
<b>Lesson 4</b>	6.3.1	Constructing Tangent Lines	G–C.4 (+)
	<b>Finding Arc Lengths and Areas of Sectors</b>		
	6.4.1	Defining Radians	G–C.5
<b>Lesson 5</b>	6.4.2	Deriving the Formula for the Area of a Sector	G–C.5
	<b>Explaining and Applying Area and Volume Formulas</b>		
<b>Lesson 6</b>	6.5.1	Circumference and Area of a Circle	G–GMD.1
	6.5.2	Volumes of Cylinders, Pyramids, Cones, and Spheres	G–GMD.1 G–GMD.3*
<b>Lesson 7</b>	<b>Deriving Equations</b>		
	6.6.1	Deriving the Equation of a Circle	G–GPE.1
	6.6.2	Deriving the Equation of a Parabola	G–GPE.2
<b>Lesson 7</b>	<b>Using Coordinates to Prove Geometric Theorems About Circles and Parabolas</b>		
	6.7.1	Using Coordinates to Prove Geometric Theorems About Circles and Parabolas	G–GPE.4