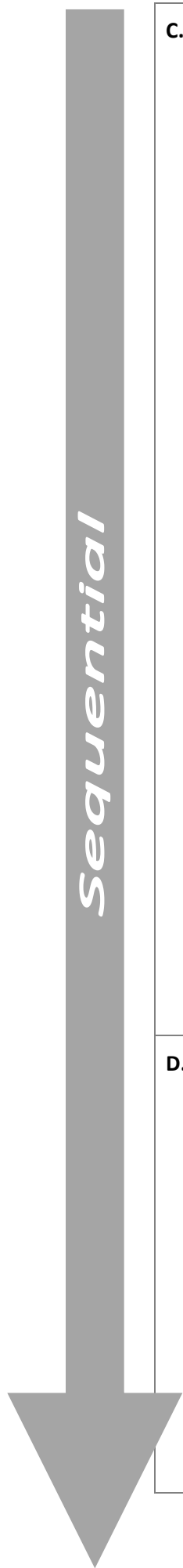


Mathematics Algebra II Year-Long Curriculum Map  
11" x 17"

Sequential

Inquiry Modules	Critical Focus Areas	Student Focal Points	Sense-Making CONCEPTS Standards	Sense-Making STRATEGIES Standards	Sense-Making APPLICATION/ MODELING Standards
<b>A. Polynomial, Rational, and Radical Relationships</b>	<ul style="list-style-type: none"> <li>Number and Quantity – Relating Complex Numbers to Real Numbers</li> <li>Number and Quantity – Expanding Representations of Real Numbers</li> <li>Algebra – Extending the Concept of Expression to Include Polynomial and Rational Expression</li> <li>Algebra – Writing and Solving Equations and Inequalities Systems While Anticipating the Number and Nature of Solutions</li> <li>Algebra – Using Multiple Representations of Relationships Between Quantities</li> <li>Function – Using Multiple Representations of Relationships Between Quantities</li> </ul>	<ol style="list-style-type: none"> <li>Understanding complex numbers and using them to perform arithmetic operations</li> <li>Solving quadratic equations that have real coefficients</li> <li>Interpreting the structure of polynomial and rational expressions with rational exponents</li> <li>Deriving and using the formula for the sum of finite geometric series</li> <li>Performing arithmetic operations on polynomials</li> <li>Graphing and understanding the relationship between zeros and the factors of polynomials</li> <li>Using polynomial identities to solve problems</li> <li>Rewriting rational expressions</li> <li>Understanding solving rational and radical equations as a process of reasoning and explaining the reasoning</li> <li>Representing and solving various equations and inequalities graphically in order to justify solutions</li> <li>Analyzing functions using different representations</li> </ol>	<p>N.CN.1, N.CN.2</p> <p>N.CN.8</p> <p>A.SSE.1, A.APR.1, A.APR.3, A.APR.7</p>	<p>N.CN.7, N.CN.9</p> <p>A.SSE.2, A.APR.2, A.APR.6</p> <p>A.APR.5, A.REI.2</p>	<p>A.SSE.4</p> <p>A.APR.4</p> <p>A.REI.11</p>
		<ol style="list-style-type: none"> <li>Developing an understanding of radian measure and extending the domain of trigonometric functions using the unit circle</li> <li>Modeling periodic phenomena with trigonometric functions</li> <li>Proving and applying trigonometric identities</li> </ol>	<p>F.TF.1, F.TF.2</p>	<p>F.TF.8</p>	<p>F.TF.5</p>



<p><b>C. Modeling with Functions</b></p>	<ul style="list-style-type: none"> <li>• Algebra – Writing and Solving Equations and Inequality Systems while Anticipating the Number and Nature of Solutions</li> <li>• Algebra – Using Multiple Representations of Relationships Between Quantities</li> <li>• Function – Using Multiple Representations to Analyze Functions</li> <li>• Function – Using Multiple Representations of Relationships Between Quantities</li> <li>• Functions – Modeling Families of Functions</li> </ul>	<ol style="list-style-type: none"> <li>1) Modeling contextual situations by creating linear, exponential, quadratic, trigonometric, rational, and polynomial equations</li> <li>2) Interpreting functions that arise in context or based on data by investigating restrictions and key features of graphs</li> <li>3) Creating and interpreting various functions in terms of the situations they model (not to include logarithms until focal point #6)</li> <li>4) Building a function that models a relationship between two quantities</li> <li>5) Building new functions from various existing functions through experimentation with transformations, including inverse functions</li> <li>6) Developing an understanding of logarithms and construct and compare all functions models, including logarithmic, in context</li> </ol>	<p>A.CED.3, A.CED.4</p> <p>A.CED.2</p> <p>F.IF.9, F.BF.3</p>	<p>F.IF.8</p> <p>F.BF.4, F.LE.4</p>	<p>A.CED.1</p> <p>F.IF.4, F.IF.6</p> <p>F.IF.5, F.IF.7, F.BF.1</p>
<p><b>D. Inferences and Conclusions From Data</b></p>	<ul style="list-style-type: none"> <li>• Statistics and Probability – Analyzing Data</li> <li>• Statistics and Probability – Randomizations in Data Collections</li> <li>• Statistics and Probability – Using Probability as a Tool of Statistics</li> </ul>	<ol style="list-style-type: none"> <li>1) Interpreting data appropriately on a single count or measurement variable including understanding standard deviation and using technology to estimate areas under the normal curve</li> <li>2) Understanding and evaluating random processes underlying statistical experiments</li> <li>3) Making inferences and justifying conclusions from sample surveys, experiments, and observational studies</li> </ol>	<p>S.IC.1, S.IC.2, S.IC.3</p> <p>S.MD.7</p>	<p>S.ID.4</p> <p>S.IC.4</p>	<p>S.IC.6</p> <p>S.IC.5</p> <p>S.MD.6</p>