HIGHLANDS HIGH SCHOOL
ALGEBRA II PACING GUIDE

ALGEBRA II	Numbers and Operations	Algebraic Concepts
SAS MODULE 1 ***Relationships Between Quantities and Reasoning with Equations*** **(Suggested Timeline: 14 weeks)**	**CC.2.1.HS.F.1** **Apply and extend the properties of exponents to solve problems with rational exponents**	**CC.2.2.HS.C.2** **Graph and analyze functions and use their properties to make connections between the different representations.**
	ASSESSMENT	ASSESSMENT
	CC.2.1.HS.F.2 **Apply properties of rational and irrational numbers to solve real world or mathematical problems.**	**CC.2.2.HS.D.1** **Interpret the structure of expressions to represent a quantity in terms of its context.**
	ASSESSMENT	ASSESSMENT
	CC.2.1.HS.F.6 **Extend the knowledge of arithmetic operations and apply to complex numbers.**	**CC.2.2.HS.D.2** **Write expressions in equivalent forms to solve problems.**
	ASSESSMENT	ASSESSMENT
	CC.2.1.HS.F.7 **Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.**	**CC.2.2.HS.D.3** **Extend the knowledge of arithmetic operations and apply to polynomials.**
	ASSESSMENT	ASSESSMENT
		CC.2.2.HS.D.4

		Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.
		ASSESSMENT
		CC.2.2.HS.D.9 **Use reasoning to solve equations and justify the solution method.**
		ASSESSMENT
		CC.2.2.HS.C.1 **Use the concept and notation of functions to interpret and apply them in terms of their context.**
		ASSESSMENT
		CC.2.2.HS.C.3 **Write functions or sequences that model relationships between two quantities.**
		ASSESSMENT
		CC.2.2.HS.C.4 **Interpret the effects transformations have on functions and find the inverses of functions.**
		ASSESSMENT
		CC.2.2.HS.C.5 **Construct and compare linear, quadratic and exponential models to solve problems.**

		ASSESSMENT
		CC.2.2.HS.C.6 **Interpret functions in terms of the situation they model.**
		ASSESSMENT
		CC.2.2.HS.C.7 **Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.**
		ASSESSMENT
		CC.2.2.HS.C.8 **Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.**
		ASSESSMENT
		CC.2.2.HS.C.9 **Prove the Pythagorean identity and use it to calculate trigonometric ratios.**
		ASSESSMENT
		CC.2.2.HS.D.7 **Create and graph equations or inequalities to describe numbers or relationships.**

		ASSESSMENT _____
		CC.2.2.HS.D.8 **Apply inverse operations to solve equations or formulas for a given variable.**
		ASSESSMENT
		CC.2.2.HS.D.10 **Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.**
		ASSESSMENT

	Algebraic Concepts	Statistics and Probability
SAS MODULE 2 ***Trigonometric Functions*** **(Suggested Timeline: 7 weeks)**	**CC.2.2.HS.C.7** **Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.**	**CC.2.4.HS.B.2** **Summarize, represent, and interpret data on two categorical and quantitative variables.**
	ASSESSMENT	ASSESSMENT
	CC.2.2.HS.C.8 **Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.**	**CC.2.4.HS.B.2** **Summarize, represent, and interpret data on two categorical and quantitative variables.**
	ASSESSMENT	ASSESSMENT
	CC.2.2.HS.C.1 **Use the concept and notation of functions to interpret and apply them in terms of their context.**	**CC.2.4.HS.B.3** **Analyze linear models to make interpretations based on the data.**
	ASSESSMENT	ASSESSMENT
	CC.2.2.HS.D.2 **Write expressions in equivalent forms to solve problems.**	**CC.2.4.HS.B.4** **Recognize and evaluate random processes underlying statistical experiments.**
	ASSESSMENT	ASSESSMENT
	CC.2.2.HS.D.9 **Use reasoning to solve equations and justify the solution method.**	**CC.2.4.HS.B.5** **Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.**
	ASSESSMENT	ASSESSMENT

		CC.2.4.HS.B.6 **Use the concepts of independence and conditional probability to interpret data.**
		ASSESSMENT __
		CC.2.4.HS.B.7 **Apply the rules of probability to compute probabilities of compound events in a uniform probability model.**

	Numbers and Operations	Algebraic Concepts
SAS MODULE 3 ***Modeling with Functions*** **(Suggested Timeline: 10 weeks)**	**CC.2.1.HS.F.1** **Apply and extend the properties of exponents to solve problems with rational exponents**	**CC.2.2.HS.C.2** **Graph and analyze functions and use their properties to make connections between the different representations.**
	ASSESSMENT	ASSESSMENT
	CC.2.1.HS.F.3 **Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.**	**CC.2.2.HS.C.4** **Interpret the effects transformations have on functions and find the inverses of functions.**
	ASSESSMENT	ASSESSMENT

		CC.2.2.HS.C.5 **Construct and compare linear, quadratic and exponential models to solve problems.**
		ASSESSMENT
		CC.2.2.HS.C.6 **Interpret functions in terms of the situation they model.**
		ASSESSMENT
		CC.2.2.HS.D.7 **Create and graph equations or inequalities to describe numbers or relationships.**
		ASSESSMENT _
		CC.2.2.HS.D.4 **Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.**
		ASSESSMENT
		CC.2.2.HS.D.6 **Extend the knowledge of rational functions to rewrite in equivalent forms.**
		ASSESSMENT
		CC.2.2.HS.D.1 **Interpret the structure of expressions to represent a quantity in terms of its context.**

		ASSESSMENT

	Numbers and Operations	Probability and Statistics
SAS MODULE 4 ***Inferences and Conclusions from Data*** **(Suggested Timeline: 5 weeks)**	**CC.2.1.HS.F.3** **Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.**	**CC.2.4.HS.B.1** **Summarize, represent, and interpret data on a single count or measurement variable.**
	ASSESSMENT	ASSESSMENT
	CC.2.1.HS.F.5 **Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.**	**CC.2.4.HS.B.4** **Recognize and evaluate random processes underlying statistical experiments.**
	ASSESSMENT	ASSESSMENT
		CC.2.4.HS.B.5 **Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.**
		ASSESSMENT
		CC.2.4.HS.B.2 **Summarize, represent, and interpret data on two categorical and quantitative variables.**

		CC.2.4.HS.B.3 ASSESSMENT **Analyze linear models to make interpretations based on the data.**
		ASSESSMENT
		CC.2.4.HS.B.6 **Use the concepts of independence and conditional probability to interpret data.**
		ASSESSMENT
		CC.2.4.HS.B.7 **Apply the rules of probability to compute probabilities of compound events in a uniform probability model.**
		ASSESSMENT