Grade Course	S2 Algebra Trigonometry 2	Subject	Math
Class Hours	4 hours/week		

Competencies

① Inquiry	Initiate mathematical investigations and connect content from class to the outside world.
② Logical/analytical thinking	Engage in rigorous mathematical reasoning, including proofs
③ Problem solving	Develop a broad and deep repertoire of problem solving strategies, sound judgement on when to deploy each, and persistence in the face of intellectual challenges;

③	Summarize the unit contents in one`s own words. Identify the appropriate combination of methods needed to solve a complex	Produce a complicated proof, solution, or derivation that requires careful reasoning	Invent a interesting problem utilizing algebra or trigonometry
②	For a give problem, identify an applicable solution method	Produce a simple proof modeled on an example. Spot a gap in reasoning	Solve a problem in a variety of ways. Connect multiple representations
①	Correctly interpret algebra- or trigonometry-related mathematical notation	Follow the steps in a mathematical proof, calculation, or derivation	Ask questions about the application or foundation of the material
	Ⓐ Recognition	Ⓑ Logical Thinking	Ⓒ Creative Thinking

Term	Month	Unit	Unit Goals	Activities
1	4 5 6 7	Chapter 3: Polynomial and Rational Functions. Chapter 4: Exponential and Logarithmic Functions	Understand the basics of complex numbers For each type of function (quadratic, polynomial, rational, exponential, logarithmic) relate features of the equation to the visual features of its graph Understand how to divide polynomials algebraically Develop facility with the rules for manipulating logs and exponents Connect each function type to a real world example	Problem solving in small groups; Various web-based explorations and activities from Desmos and PhET
2	9 10 11 12	Chapter 5: Trigonometric Functions Chapter 6: Periodic Functions Chapter 7: Trigonometric Identities and Equations	Develop an understanding of trigonometry as it relates to right triangles Extend this understanding to unit-circle trigonometry Understand and apply common trigonometric identities	Problem solving in small groups; Various web-based explorations and activities from Desmos and PhET;
3	1 2 3	Chapter 8: Further Applications of Trigonometry	Understand the law of sines and law of cosines Develop an undertanding of polar equations and graphs Understand the polar form of complex numbers and Euler's fomula	Problem solving in small groups; Various web-based explorations and activities from Desmos and PhE