BILAL HALABI
YEAR PLAN
2025-2026
PRECALCULUS, ALGEBRA 2, AND GEOMETRY

August 26, 2025–November 2, 2025	November 3, 2025--January 14, 2026	January 18, 2026--March 18, 2026	March 29, 2026--June 9, 2026
Precalculus - 12A			
UNIT 1: FUNCTIONS FROM A CALCULUS PERSPECTIVE **Standards**: HSF.IF.1, HSF.IF.2, HSF.IF.4, HSF.IF.7, HSF.BF.1, HSF.BF.4. **Lesson 1:** Functions **Lesson 2** :Analyzing Graphs of Functions and Relations **Lesson 3:** Continuity, End Behavior, and Limits **Lesson 4:** Extrema and Average Rates of Change **Lesson 6:** Function Operations and Composition of Functions **Lesson 7:** Inverse Relations and Functions **UNIT 2: POWER, POLYNOMIAL AND RATIONAL FUNCTIONS** **Standards**: HSF.IF.7, HSF.IF.8, HSF.IF.9, HSA.APR.2, HSA.APR.3, HSA.APR.4. **Lesson 1:** Power and Radical Functions **Lesson 2:** Polynomial Functions **Lesson 3:** The Remainder and Factor Theorems **Lesson 4:** Zeros of Polynomial Functions **Lesson 5:** Rational Functions	**UNIT 3: EXPONENTIAL AND LOGARITHMIC FUNCTIONS** **Standards**: HSF.LE.1, HSF.LE.2, HSF.LE.4, HSF.LE.5, HSF.IF.7, HSF.IF.8. **Lesson 1:** Exponential Functions **Lesson 2:** Logarithmic Functions **Lesson 3:** Properties of Logarithms **Lesson 4:** Exponential and Logarithmic Equations **UNIT 4: TRIGONOMETRIC FUNCTIONS** **Standards**: HSF.TF.1, HSF.TF.2, HSF.TF.3, HSF.TF.5, HSF.TF.6, HSG.SRT.10, HSG.SRT.11. **Lesson 1:** Right Triangle Trigonometry **Lesson 2:** Degrees and Radians **Lesson 3:** Trigonometric Functions on the Unit Circle **Lesson 4:** Graphing Sine and Cosine Functions **Lesson 6:** Inverse Trigonometric Functions **Lesson 7:** The Law of Sines and the Law of Cosine	**UNIT 5: TRIGONOMETRIC IDENTITIES AND EQUATIONS** **Standards**: HSF.TF.8, HSF.TF.9, HSF.TF.10, HSF.TF.11. **Lesson 1:** Trigonometric Identities **Lesson 2:** Verifying Trigonometric Identities **Lesson 3:** Solving Trigonometric Equations **Lesson 4:** Sum and Difference Identities **UNIT 7: CONIC SECTIONS AND PARAMETRIC EQUATIONS** **Standards:** HSG.GPE.1, HSG.GPE.2, HSG.GPE.3. **Lesson 1:** Parabolas **Lesson 2:** Ellipses and Circles **Lesson 3:** Hyperbolas	**UNIT 8: VECTORS** **Standards**: HSN.VM.1, HSN.VM.2, HSN.VM.4, HSN.VM.5, HSN.VM.7. **Lesson 1:** Introduction to Vectors **Lesson 2:** Vectors in the Coordinate Plane **Lesson 3:** Dot Product and Vector Projections **UNIT 12: LIMITS AND DERIVATIVES** **Standards**: HSF.C.1, HSF.C.2, HSF.C.3, HSF.C.4. **Lesson 4:** Derivatives **Lesson 6:** The fundamental Theorem of Calculus

Geometry - 9A

Unit 1: ESSENTIALS OF GEOMETRY

Standards: G.CO.1, G.CO.9, G.GPE.4, G.GPE.6

Module 1: Geometry in the plane
Standards:
Points, Lines, and Planes
Define and Measure Angles
Polygons and Other Figures in the Plane
Apply the Distance Formula

Unit 2: PARALLEL AND PERPENDICULAR LINES

Standards: G.CO.9, G.CO.10, G.CO.11, G.GPE.5, G.GPE.4

Module 3: Lines and Transversals
Parallel Lines Crossed by a Transversal

Module 4: Lines on the Coordinate Plane
Slope and Equations of Parallel Lines
Slope and Equations of Perpendicular Lines
Write a Coordinate Proof

Unit 3: TRANSFORMATIONS

Standards: G.CO.2, G.CO.3, G.CO.5, G.CO.6, G.CO.7, G.CO.8

Module 5: Transformations that Preserve Size and Shape
Define and Apply Rotations
Define and Apply Reflections
Define and Apply Symmetry

Module 6: Transformations that Change Size and Shape
Define and Apply Dilations, Stretches, and Compressions
Apply Sequences of Transformations

Unit 4: TRIANGLE CONGRUENCE

Standards: G.CO.6, G.CO.7, G.CO.8, G.CO.9, G.CO.10

Module 7: Congruent Triangles and Polygons
Understand Congruent Figures
Corresponding Parts of Congruent Figures
Use Rigid Motions to Prove Figures Are Congruent

Module 8: Triangle Congruence Criteria
Develop ASA Triangle Congruence
Develop SAS Triangle Congruence
Develop SSS Triangle Congruence
Develop AAS and HL Triangle Congruence

Unit 5: RELATIONSHIPS WITHIN TRIANGLES

Standards: G.CO.10, G.CO.11, G.SRT.5, G.GPE.6

Module 9: Properties of Triangles
Angle Relationships in Triangles
Perpendicular Bisectors in Triangles
Angle Bisectors in Triangles
Medians and Altitudes in Triangles
The Triangle Midsegment Theorem

Module 10: Triangle Inequalities
Inequalities Within a Triangle
Inequalities Between Two Triangles

Unit 6: QUADRILATERALS, POLYGONS, AND TRIANGLE SIMILARITY

Standards: G.CO.11, G.SRT.5, G.GPE.4

Module 11: Quadrilaterals and Polygons
Properties of Parallelograms
Conditions for Parallelograms
Properties of Rectangles, Rhombuses, and Squares
Conditions for Rectangles, Rhombuses, and Squares

Unit 7: RIGHT TRIANGLE TRIGONOMETRY

Standards: G.SRT.6, G.SRT.7, G.SRT.8

Module 13: Trigonometry with Right Triangles
Tangent Ratio
Sine and Cosine Ratios
Special Right Triangles
Solve Problems Using Trigonometry

Unit 8: PROPERTIES OF CIRCLES

Standards: G.C.1, G.C.2, G.C.3, G.C.5, G.GPE.1

Module 15: Angles and Segments in Circles
Central Angles and Inscribed Angles
Angles in Inscribed Quadrilaterals
Tangents and Circumscribed Angles
Circles on the Coordinate Plane

UNIT 8: PROPERTIES OF CIRCLES

Standards: G.C.1, G.C.2, G.C.3, G.C.5, G.GPE.1

Module 16: Relationships in Circles
Segment Relationships in Circles
Angle Relationships in Circles

Module 17: Circumference and Area of a Circle
Measure Circumference and Area of a Circle
Measure Arc Length and Use Radians
Measure Sector Area

Unit 9: SURFACE AREA AND VOLUME

Standards: G.GMD.1, G.GMD.3, G.MG.1, G.MG.2, G.MG.3

Module 18: Surface Area
Three-Dimensional Figures
Surface Areas of Prisms and Cylinders
Surface Areas of Pyramids and Cones
Surface Areas of Spheres

Module 19: Volume
Volumes of Prisms and Cylinders
Volumes of Pyramids and Cones
Volumes of Spheres
Includes a Modeling Success Extension

Algebra 2 - 11A/B

UNIT 1: FUNCTIONS AND EQUATIONS

Standards: HSF.IF.1, HSF.IF.2, HSF.IF.4, HSF.IF.5, HSF.IF.6, HSF.IF.7, HSA.REI.4, HSA.REI.7, HSN.CN.1, HSN.CN.2, HSN.CN.7

Module 1: Analyze Functions
Lesson 1.1: Domain, Range, and End Behavior
Lesson 1.2: Characteristics of Functions and Graphs
Lesson 1.4: Transformations of Absolute Value Functions
Lesson 1.5: Compare Functions Across Representations

Module 2: Solve Quadratic Equations and Systems
Lesson 2.1: Use Square Roots to Solve Quadratic Equations
Lesson 2.2: Operations with Complex Numbers
Lesson 2.3: Derive and Apply the Quadratic Formula
Lesson 2.4: Solve Linear-Quadratic Systems

UNIT 2: POLYNOMIAL FUNCTIONS AND EQUATIONS

Standards: HSF.IF.7, HSA.APR.1, HSA.APR.2, HSA.APR.3, HSA.APR.4, HSA.APR.5

Module 3: Polynomial Functions
Lesson 4.1: Function Operations
Lesson 4.2: Add and Subtract Polynomials
Lesson 4.3: Multiply Polynomials
Lesson 4.4: Factor Polynomials
Lesson 4.5: Divide Polynomials

UNIT 3: RATIONAL EXPONENTS AND RADICAL FUNCTIONS

Standards: HSN.RN.1, HSN.RN.2, HSN.RN.3, HSF.IF.7, HSF.BF.1, HSF.BF.4

Module 6: Rational Exponents and Radical Functions
Lesson 6.1: Rational Exponents and nth Roots
Lesson 6.2: Properties of Rational Exponents and Radicals

Module 7: Radical Functions and Equations
Lesson 7.1: Inverse Functions and Function Composition
Lesson 7.2: Inverse of Quadratic and Cubic Functions

UNIT 4: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

Standards: HSF.LE.1 HSF.LE.2 HSF.LE.3 HSF.LE.4 HSF.LE.5

Module 8: Exponential Functions
Lesson 8.1: Exponential Growth and Decay Functions
Lesson 8.2: The Natural Base "e"
Lesson 8.3: Compound Interest

UNIT 4: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

Standards: HSF.IF.7 HSF.IF.8 HSF.LE.4 HSF.LE.5 F.BF.1 F.BF.4

Module 9: Rational Exponents and Radical Functions
Lesson 9.1: Logarithm and Logarithmic Functions
Lesson 9.2: Graph Logarithmic Functions
Lesson 9.3: Create Exponential and Logarithmic Functions

Module 10: Exponential and Logarithmic Equations
Lesson 10.1: Properties of Logarithm
Lesson 10.2: Solve Exponential Equations
Lesson 10.3: Solve Logarithmic Equations

UNIT 5: RATIONAL FUNCTIONS AND EQUATIONS

Standards: HSF.IF.7 HSF.IF.8 HSF.IF.9 HSA.APR.2 HSA.APR.3 HSA.APR.4

Module 11: Rational Functions
Lesson 11.1: Introduction to Variables and Constants
Lesson 2: Graph Simple Rational Functions

Module 12: Rational Expressions and Equations
Lesson 12.1: Multiply and Divide Rational Expressions
Lesson 12.2: Add and Subtract Rational Expressions
Lesson 12.3: Solve Rational Expressions

UNIT 6: SEQUENCES AND SERIES

Standards: HSF.BF.1 HSF.LE.1 HSF.LE.2

Module 13: Explicit Formulas for Sequences and Series
Lesson 13.1: Define Sequences and Series
Lesson 13.2: Arithmetic Sequences and Series
Lesson 13.3: Geometric Sequences and Series

UNIT 7: TRIGONOMETRIC FUNCTIONS AND IDENTITIES

Standards: HSF.TF.1 HSF.TF.2 HSF.TF.3 HSF.TF.5 HSF.TF.6

Module 15: Unit-Circle Definition of Trigonometric Functions
Lesson 15.1: Angles of Rotation and Radian Measure|
Lesson 15.2: Define and Evaluate Basic Trigonometric Functions
Lesson 15.3: Use Pythagorean Identity

Module 16: Graph Trigonometric Functions
Lesson 16.1: Graph Sine and Cosine Functions