HONORS PRE-CALCULUS SYLLABUS

1st Marking Period

Chapter 1: Functions and Their Graphs. (Test 1.2 – 1.6)

1.2 Functions (NJSLS.A-CED.A.2, NJSLS.A-CED.A.4, NJSLS.F-IF.A.1-2, NJSLS.F-IF.B.5-6, NJSLS.F-LE.B.5)

1.3 Graphs. of Functions (Piecewise & Step Functions) (NJSLS.A-REI.D.10, NJSLS.F-IF.B.4, NJSLS.F-IF.C.7, NJSLS.F-IF.C.7b)

1.4 Shifting, Reflecting and Stretching Graphs. (NJSLS.F-BF.B.3)

1.5. Combinations of Functions (NJSLS.F-BF.A.1, NJSLS.F-BF.A.1b, NJSLS.F-BF.A.1c)

1.6 Inverse Functions (Inverses Algebraically, No One-to-One) (NJSLS.F-BF.B.4, NJSLS.F-BF.B.4a-4d)

Chapter 2A: Polynomial and Rational Functions (Test 2.2 – 2.5)

2.2 Polynomial Functions of Higher Degree (NJSLS.A-SSE.A.2, NJSLS.A-APR.B3, NJSLS.F-IF.C.7)

2.4 Complex Numbers (not in-depth, just review) (NJSLS.N-CN.A.1, 2, 3, NJSLS.N-CN.C.7, NJSLS.A-REI.B.4b)

2.5 The Fundamental Theorem of Algebra (NJSLS.N-CN.C.7, 9)

Chapter 2B: Polynomial and Rational Functions (Test 2.6 – 2.7)

2.6 Rational Functions and Asymptotes (Including Slant Asymptotes) (NJSLS.A-SSE.A.1, 1b, HSA-CED.A.2)

2.7 Graphs. of Rational Functions (NJSLS.F-IF.C.7, 7d)

2nd Marking Period

Chapter 3: Exponential and Logarithmic Functions (Test 3.1 – 3.5)

3.1 Exponential Functions and Their Graphs. (NJSLS.A-SSE.B.3c, NJSLS.F-IF.C.7.e, NJSLS.F-IF.C.8b, NJSLS.F-LE.B.5)

3.2 Logarithmic Functions and Their Graphs. (NJSLS.F-IF.C.7.e)

3.3 Properties of Logarithms (NJSLS.A-SSE.A.1, NJSLS.A-SSE.B.3c)

3.4 Solving Exponential and Logarithmic Equations (NJSLS.F-IF.C.8b, NJSLS.F-BF.B.4, NJSLS.F-BF.B.5, NJSLS.F-LE.A.1c)

*Use 3.5 Exponential and Logarithmic Models to Supplement Word Problems

Chapter 4A: Trigonometric Function (Test 4.3, 4.8, 6.1, 6.2)

4.3 Right Triangle Trigonometry (NJSLS.F-TF.B, NJSLS.G-SRT.C.6, NJSLS.G-SRT.C.8)

4.8 Applications and Models (Include Bearings) (NJSLS.N-Q.A.1, NJSLS.F-TF.B.5, NJSLS.F-TF.B.7)

6.1 Law of Sines (NJSLS.G-SRT.D.9, NJSLS.G-SRT.D.10, NJSLS.G-SRT.D.11)

6.2 Law of Cosines (NJSLS.G-SRT.D.10, NJSLS.G-SRT.D.11)

Chapter 4B: Trigonometric Function (Test 4.1, 4,2, & 4.4)

4.1 Radian and Degree Measure (NJSLS.F-TF.A.1, NJSLS.G-C.B.5)

4.2 Trigonometric Functions: The Unit Circle (NJSLS.F-TF.A.2, NJSLS.F-TF.A.4)

4.4 Trigonometric Functions of Any Angle (NJSLS.F-TF.A.3, NJSLS.F-TF.C.8)

3rd Marking Period

Chapter 4C: Trigonometric Function (Test 4.5, 4.6 & 4.7)

    4.5 Graphs of Sine and Cosine Functions (NJSLS.F-TF.B.5)

    4.6 Graphs of Tangent

    4.7 Inverse Trigonometric Functions (NJSLS.N-Q.A.1, NJSLS.F-TF.B.6)

Chapter 5A: Analytic Trigonometry (Test 5.1, 5.2 & 5.3)

    5.1 Using Fundamental Identities (NJSLS.N-Q.A.1, NJSLS.F-TF.B.6, NJSLS.F-TF.C.8)

    5.2 Verifying Trigonometric Identities (NJSLS.N-Q.A.1, NJSLS.F-TF.B.5, NJSLS.F-TF.B.7, NJSLS.F- TF.C.8)

    5.3 Solving Trigonometric Equations (NJSLS.F-TF.C.9)

Chapter 5B: Analytic Trigonometry (Test 5.4 – 5.5)

    5.4 Sum and Difference Formulas (NJSLS.F-TF.C.9)

    5.5 Multiple Angle and Product Sum Formulas (NJSLS.F-TF.C.9)

4th Marking Period

Chapter 9A: Topics in Analytic Geometry (Test 9.1)

    9.1 Circles and Parabolas (NJSLS.G-GPE.A.1, NJSLS.G-GPE.A.2)

Chapter 9B: Topics in Analytic Geometry (Test 9.2-9.3)

    9.2 Ellipses (NJSLS.G-GPE.A.3)

    9.3 Hyperbolas (NJSLS.G-GPE.A.3)

Chapter 9C: Topics in Analytic Geometry (Test 9.5 -9.6)

9.5 Polar Coordinates (NJSLS. NJSLS.F-IF.C.7, NJSLS.F-TF.A.1, NJSLS.F-TF.A.2, NJSLS.F-TF.A.3, NJSLS.F-TF.A.4)

9.6 Graphs. of Polar Equations (NJSLS. NJSLS.F-IF.C.7, NJSLS.F-TF.A.1, NJSLS.F-TF.A.2, NJSLS.F-TF.A.3, NJSLS.F-TF.A.4)

Course Expectations and Skills

- Students are required to have proficiency in all prerequisite topics for Algebra 1, Geometry and Algebra 2. Those who do not demonstrate proficiency will be required to seek additional help after school to close their achievement gap in order to be successful in this course.
- Students are strongly recommended to have a TI-84 Graphing calculator.
- Students are required to participate in both small and large group discussions and activities, as directed.
- Students are required to complete a project each marking period, including those which require the use of technology.
- Students are required to access online materials as warranted by the instructor.

Resources

Textbook: Precalculus with Limits A Graphing Approach 7e, **Larson**

Additional Resources: Cengage Web-Based videos and supplements
                          Kuta Software
                          Boardworks (CCSS PowerPoints)

Assessment Information

Marking Periods 1 - 4	
Category	Percentage
Major	55%
Minor	35%
Homework	10%