## Accelerated Pre-Calculus Teaching & Learning Framework

### Block Schedule

<table>
<thead>
<tr>
<th>Unit 1</th>
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<tr>
<td>1.5 weeks</td>
<td>2 weeks</td>
<td>2 weeks</td>
<td>2 weeks</td>
<td>1.5 weeks</td>
<td>1 week</td>
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<td>1 week</td>
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<td>1.5 weeks</td>
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### Matrices
- **MGSE-12.N.VM.6** (Use matrices for data)
- **MGSE-12.N.VM.7** (Multiple matrices)
- **MGSE-12.N.VM.8** (Add, subtract & multiply matrices)
- **MGSE-12.N.VM.9** (Properties & multiplicative of matrices)
- **MGSE-12.N.VM.10** (Zero & identity matrices)
- **MGSE-12.N.VM.12** (2x2 matrices & transformations)
- **MGSE-12.A.REI.8** (Systems & matrices)
- **MGSE-12.A.REI.9** (Inverse of a matrix)

### Conics
- MGSE-12.G.GPE.2
  - (Derive the equation of a parabola)
- MGSE-12.G.GPE.3
  - (Derive the equations of ellipses & hyperbolas)
- MGSE-12.A.REI.7
  - (Solve a system of linear & quadratic equations)

### Introduction to Trigonometric Functions
- MGSE-12.F.TF.2
  - (Understand radian measures)
- MGSE-12.F.TF.2a
  - (Define the unit circle)

### Trigonometric Functions
- MGSE-12.F.TF.5
  - (Graph trigonometric functions)
- MGSE-12.F.TF.6
  - (Restricted domain & modeling)

### Trigonometric Identities
- MGSE-12.F.TF.7
  - (Inverse trigonometric functions & identities)
- MGSE-12.F.TF.8
  - (Pythagorean identity)
- MGSE-12.F.TF.9
  - (Prove trigonometric identities)

### Vectors
- MGSE-12.F.BF.1.a
  - (Find the zeros of a function)
- MGSE-12.F.BF.1.b
  - (Estimate zeros of functions)

### Probability
- MGSE-12.S.CP.8
  - (General multiplication rule)
- MGSE-12.S.CP.9
  - (Permutations & combinations)

### Inferences and Conclusions from Data
- MGSE-12.S.IC.1
  - (Inferences from a random sample)
- MGSE-12.S.IC.2
  - (Using simulations)

### Polar & Parametric Structure
- MGSE-12.S.ID.4
  - (Fit to a normal distribution)
- MGSE-12.S.ID.5
  - (Compare 2 populations or treatments)

### Sequences & Series Review
- MGSE-12.S.ID.2
  - (Probability distribution)
- MGSE-12.S.ID.3
  - (Probability distribution-theoretical)

### These units were written to build upon concepts from prior units, so later units contain tasks that depend upon the concepts addressed in earlier units. All units will include the Mathematical Practices and indicate skills to maintain.**
NOTE: Mathematical standards are interwoven and should be addressed throughout the year in as many different units and topics as possible in order to stress the natural connections that exist among mathematical topics. *denotes enrichment standards in preparation for AP Calculus

Grades 9-12 Key: Algebra Strand: SSE = Seeing Structure in Expressions, APR = Arithmetic with Polynomial and Rational Expressions, CED = Creating Equations, REI = Reasoning with Equations and Inequalities

Functions Strand: IF = Interpreting Functions, LE = Linear and Exponential Models, BF = Building Functions, TF = Trigonometric Functions

Geometry Strand: CO = Congruence, SRT = Similarity, Right Triangles, and Trigonometry, C = Circles, GPE = Expressing Geometric Properties with Equations, GMD = Geometric Measurement and Dimension, MG = Modeling with Geometry


CSE=Cobb Standards of Excellence