Trigonometry – Course Outline

Duration: 1 trimester
Textbook: *Trigonometry, 11th Edition* by Lial, Hornsby, Schneider, & Daniels (Pearson)

1st 6 Weeks

Unit 1	
Radian and Degree Measure	2 days
• Find angle measures (1.1, 3.1) • Convert between degree and radian (3.1) • Sketch angles (1.1) • Coterminal angles (1.1) • Find arc length and area of sector (3.2)	
Right Triangle Trigonometry	2 days
• Six trigonometric functions (1.3) • Special Right Triangles (2.1) • Pythagorean Theorem (1.3) • Angles of Elevation and Depression (2.4)	
Quiz – Radian and Degree Measure and Right Triangle Trigonometry	1 days
Trigonometric Functions	5 days
• Radian measure (3.1) • Unit circle (3.3) • Evaluate trigonometric functions • Reference angles (2.1)	
Test – Radian and Degree Measure, Right Triangle Trigonometry , and Trigonometric Functions	2 days
Unit 2	
Graph Trigonometric Functions	4 days
• Graph all 6 trigonometric functions (4.1, 4.3, 4.4) • Translations of trigonometric graphs (4.2, 4.3, 4.4)	
Quiz – Graphing Trigonometric Functions	1 day
Law of Sines and Cosines	3 days
• Law of Sines (7.1, 7.2) • Law of Cosines (7.3) • Area of Triangles using Law of Sines and Cosines (7.1, 7.3)	
Test – Graphing Trigonometric Functions & Law of Sines and Cosines	2 days
Unit 3	
Trigonometric Identities and Equations	10 days

• Trigonometric Identities (5.1, 5.2)
  ○ evaluate trigonometric functions
  ○ simplify trigonometric expressions
  ○ rewrite trigonometric expressions
  ○ verify trigonometric identities.
• Solve trigonometric equations (6.2, 6.3, 6.4)
• Inverse Trigonometric Functions (6.1)
• Sum and Difference formulas (5.3, 5.4)
• Half- and Double-Angle formulas (5.5)	

Quiz – Trigonometric Identities: evaluate, simplify, rewrite and verity	1 day
Test – Trigonometric Identities and Equations	2 days

2nd 6 Weeks

Unit 4	
Vectors	4 days
• Properties (7.4, 7.5) • Magnitude & Direction (7.4, 7.5) • Application of Vectors (7.4, 7.5) • Vector Operations (7.5) • Dot Products (7.5	
Mini Test – Vectors	2 days
Unit 5	
Polar Equations	8 days

• Complex Numbers (Review)
• Polar Form (8.2
  ○ Convert (8.2)
  ○ Equations (8.5)
  ○ Graphs (8.5)
• Product and Quotient Theorems (8.3)
• DeMoivre's Theorem (8.4)	

Quiz – Polar Form	1 day
Test – Polar Equations	2 days
Complex Numbers, Polar Equations and Parametric Equations	8 days

• Parametric (8.5)
  ○ Equations (8.5)
  ○ Graphs (8.5)
  ▪ Circle
  ▪ Hyperbola
  ▪ Ellipse
  ▪ Parabola	

Quiz – Parametric Equations	1 day
Test – Parametric Equations	2 days
Final Exam	4 days