Year Long Course Plan

Department: Mathematics **Course: Trigonometry 441**

Essential Learning Outcomes: After successfully completing this course, students will be able to:

1) Identify the relationship between an angle's measure and it's trigonometric functions.
2) Apply the trigonometric functions to solving triangles.
3) Model, solve and interpret mathematical and real world problems by using trigonometric functions.
4) Graph a variety of mathematical trigonometric functions using the parent function and transformations.
5) Solve various trigonometric equations.
6) Communicate their understanding of Trigonometry.
7) Apply Trigonometry to other disciplines.

Quarter 1	***Quarter 2***
Unit 1: The Trigonometric Functions ELO: 1, 3, 5, 6, 7 - Basic Concepts - Angles - Angle Relationships and Similar Triangles - Definitions of the Trigonometric Functions - Using the Definitions of the Trigonometric Functions Formal Assessment Unit 2: Acute Angles and Right Triangles ELO: 1, 2, 3, 5, 6, 7 - Trigonometric Functions of Acute Angles - Trigonometric Functions of Non-Acute Angles - Finding Trigonometric Function Values Using a Calculator - Solving Right Triangles - Further Applications of Right Triangles Formal Assessment Unit 3: Radian Measure and the Circular Functions ELO: 1, 3, 5, 6, 7 - Radian Measure - Applications for Radian Measure - Circular Functions of Real Numbers - Linear and Angular Velocity Formal Assessment Unit 7: Applications of Trigonometry and Vectors ELO: 1, 2, 3, 5, 6, 7 - Oblique Triangles and the Law of Sines - The Law of Cosines Formal Assessment	Unit 4: Graphs of the Circular Functions ELO: 1, 3, 4, 6, 7 - Graphs of the Sine and Cosine Functions - Translations of the Graphs of the Sine and Cosine Functions - Graphs of the Other Circular Functions Formal Assessment Unit 5: Trigonometric Identities ELO: 1, 3, 5, 6, 7 - Fundamental Identities - Verifying Trigonometric Identities - Sum and Difference Identities for Cosine - Sum and Difference Identities for Sine and Tangent - Double-Angle Identities - Half-Angle Identities Formal Assessment Unit 6: Inverse Trigonometric Functions and Trigonometric Equations ELO: 1, 2, 3, 5, 6, 7 - Inverse Trigonometric Functions - Trigonometric Equations 1 - Trigonometric Equations 2 Formal Assessment