**Math 1316 – Trigonometry**

**Textbook: PreCalculus 10/e**

Michael Sullivan, Addison Wesley, 10th ed,

ISBN-10: 0134026640; ISBN-13: 978-0134026640

**Catalog Description:**
Trigonometric functions and their applications, solutions of right and oblique triangles, trigonometric identities and equations, inverse trigonometric functions, graphs of the trigonometric functions, vectors and polar coordinates

**Course Learning Outcomes:**
The student will:

* Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
* Compute values of the six basic inverse trigonometric functions.
* Graph trigonometric functions and their transformations.
* Prove trigonometric identities.
* Solve trigonometric equations.
* Solve right and oblique triangles.
* Use the concepts of trigonometry to solve applications.
* Compute operations of vectors.
* Represent complex numbers in trigonometric form.

**Book Sections:**

**Chapter 6**

6.1 Angles and Their Measure

6.2 Trigonometric Functions: Unit Circle Approach

6.3 Properties of the Trigonometric Functions

6.4 Graphs of the Sine and Cosine Functions

6.5 Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions

6.6 Phase Shift; Sinusoidal Curve Fitting

**Chapter 7**

7.1 The Inverse Sine, Cosine, and Tangent Functions

7.2 The Inverse Trigonometric Functions (continued)

7.3 Trigonometric Equations

7.4   Trigonometric Identities

7.5   Sum and Difference Formulas

7.6 Double-angle and Half-Angle Formulas

7.7 Product-to-Sum and Sum-to-Product Formulas

**Chapter 8**

8.1 Applications Involving Right Triangles

8.2 Law of Sines

8.3 Law of Cosines

8.4 Area of a Triangle

**Chapter 9**

9.1 Polar Coordinates (optional)

9.2 Polar Equations and Graphs

9.3 The Complex Plane; DeMoivre’s Theorem

9.4 Vectors

9.5 The Dot Product

9.6 Vectors in Space

9.7 The Cross Product (optional)