CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

Part I: Course Information

Course Type
☒ Existing/Restructured
☐ New Course

Course Prefix & Number: Math 1316

Texas Common Course Number (TCCN): 1316

Course Title: Plane Trigonometry

Course Catalog Description

Plane Trigonometry (3,3,0). Topics include sets, ordered relations, number intervals, trigonometric functions, radian measure, variations and graphs of the functions, solution of right triangle and applications, trigonometric identities, equations, vector applications, and inverse functions, general triangle and complex numbers.

Course Prerequisites:
MATH 0033, MATH 1314 or satisfactory placement scores. (TSI Scores: 270 or above. After August 25, 2013, students will be required to meet new scores based on the TSI Assessment Test).

Available Online?
☐ Yes
☒ No

Part II: THECB Course Objectives
1. Compute the values of trigonometric function for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.
3. Prove trigonometric identities.
4. Solve trigonometric equations.
5. Solve right and oblique triangles.
6. Use the concepts of trigonometry to solve applications.

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Part III: THECB Skill Objectives **1. Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information **2. Communication Skills:** to include effective development, interpretation and expression of ideas through written, oral and visual communication **3. Empirical and Quantitative Skills:** to include applications of scientific and mathematical concepts.	
Part IV: Course Student Learning Outcomes (SLO) 1. Compute the values of trigonometric function for key angles in all quadrants of the unit circle measured in both degrees and radians. 2. Graph trigonometric functions and their transformations. 3. Prove trigonometric identities. 4. Solve trigonometric equations. 5. Solve right and oblique triangles. 6. Use the concepts of trigonometry to solve applications.	

Skill Objective:	**Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
THECB Course Objective	Use the concepts of trigonometry to solve applications
Course Student Learning Outcome	Use the concepts of trigonometry to solve applications
General Learning Activities	Students will collect data and use trig functions to create a mathematical model that represents the data. Students will then test their models to verify the validity of the model they created.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to choose and gather two sets of data and construct a scatter plot for each data set then use knowledge of trigonometric functions to create an equation that models each set of data. Students will test their models to evaluate whether their models are valid. They will then analyze their results and make a comparison of the two sets of data. This will be assessed using the Critical Thinking Skills

	rubric.

Skill Objective:	**Communication Skills:** to include effective written, oral, and visual communication
THECB Course Objective	Use the concepts of trigonometry to solve applications
Course Student Learning Outcome	Use the concepts of trigonometry to solve applications
General Learning Activities	Students will collect data and use trig functions to create a mathematical model that represents the data. Students will then test their models to verify the validity of the model they created.
Assessment *Must Include Assignment & Rubric*	The assignment will be to communicate in a written report and class presentation the results of their data collection, analysis and comparison. The report and presentation will include a scatterplot of the data, the mathematical model/equation that represents the data, and a comparison of the data. The Communication Skills rubric will be used to assess communication skills.

Skill Objective:	**Empirical and Quantitative Skills:** to include applications of scientific and mathematical concepts.
THECB Course Objective	Use the concepts of trigonometry to solve applications
Course Student Learning Outcome	Use the concepts of trigonometry to solve applications
General Learning Activities	Students will collect data and use trig functions to create a mathematical model that represents the data. Students will then test their models to verify the validity of the model they created.
Assessment *Must Include Assignment & Rubric*	The assignment will be to use graphing techniques to plot the data on a scatter plot then apply knowledge of trigonometric functions to create a mathematical model/equation that represents the data. Students will then test their model to check its validity. The Empirical and Quantitative Skills rubric will be used to assess empirical and quantitative skills.