**COMMUNITY COLLEGE COURSE COMPETENCIES**

***CHECKLIST*:** ***College Trigonometry***

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| **Standard** | **Dates Taught** | **Notes** |
| **Course Competencies** |
| ***Upon completion of the course, the student should be able to:*** |
| 1. Define and interpret radian measurement.
 |  |  |  |  |  |
| 1. Recognize and apply circular functions as real-valued functions.
 |  |  |  |  |  |
| 1. Solve for unknown sides/angles within right triangles and know trigonometric function values for special angles (multiples of $\frac{π}{6} and \frac{π}{4} ).$
 |  |  |  |  |  |
| 1. Define the trigonometric functions using both the right triangle and the unit circle.
 |  |  |  |  |  |
| 1. Analyze the graphs of the six basic trigonometric functions and their arithmetic combinations using the concepts of period, phase shift, amplitude, and displacement.
 |  |  |  |  |  |
| 1. Derive and verify the trigonometric identities, including but not limited to double angle, half angle, angle sum, and angle difference.
 |  |  |  |  |  |
| 1. Define, graph, and apply inverse trigonometric functions.
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| 1. Find solutions of oblique triangles using the Law of Sines or Law of Cosines.
 |  |  |  |  |  |
| 1. Solve equations involving trigonometric functions.
 |  |  |  |  |  |
| 1. Solve applied problems, including but not limited to vectors.
 |  |  |  |  |  |
| 1. Derive the trigonometric form of complex numbers and perform calculations with them, including products and quotients.
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| 1. Translate between rectangular and polar coordinates and graph within the polar coordinate system.
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| 1. Examine and analyze data, make predictions/interpretations, and do basic modeling.
 |  |  |  |  |  |
| 1. Solve systems of equations by various methods, including matrices.
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| **Course Content** |
| ***Review of Basic Concepts and Skills*** |
| 1. Circular Functions
 |  |  |  |  |  |
| 1. Graphs and Inverse Circular Functions
 |  |  |  |  |  |
| 1. Trigonometric Functions and Solutions of Triangles
 |  |  |  |  |  |
| 1. Identities
 |  |  |  |  |  |
| 1. Conditional Equations
 |  |  |  |  |  |
| 1. Polar Coordinates and Complex Numbers
 |  |  |  |  |  |
| 1. *Additional Topics*
 |  |  |  |  |  |