**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 |  |  |  |  |  |
| 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. |  |  |  |  |  |
| 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. |  |  |  |  |  |
| 1. Translate between rectangular and polar coordinates and graph within the polar coordinate system. |  |  |  |  |  |
| 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* |  |  |  |  |  |