PLANE TRIGONOMETRY

Institution	**Chandler Gilbert Community College**	
	Maricopa Community Colleges Arizona	
Course:	**MAT 182**	**Plane Trigonometry**
Hours:	**3 Load**	**Lecture**
Text:	**Advanced Mathematical Concepts Glencoe ISBN 0028341759**	**2001**
Term:	**Fall 2014**	**Course Type: Academic**
Instructor:	**John Melis**	
Tutor Hours:	**C-122: M, Tu, W @ lunch; M, Tu, W, Th after school.**	
Room:	**Period 1: C123, Period 3: D100, Period 5: C114**	
Phone:	**480-883-5000 leave message**	
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Description: A study of measures of angles, properties of graphs of trigonometric functions fundamental identities, addition and half-angle formulas, inverse trigonometric functions, solutions of trigonometric equations. complex numbers and properties of triangle solution.

Requisites: Prerequisites: Grade of C or better in MAT 150 or MAT 151 or MAT 152 or equivalent or concurrent registration in MAT 150 or MAT 151 MAT 152 or satisfactory score on District placement exam.

Course Notes: Students may receive credit for only one of the following MAT 182 or MAT 187

Course Attributes: General Education Designation: Mathematics- [MA] in combination with: MAT 152

GCCC Official Course Competencies:

1. Identify a trigonometric function. (I)
2. Use the definitions of properties of trigonometric functions to solve problems. (I)
3. Find the length of an arc.(II)
4. Determine the area of a sector.(II)
5. Find the linear ad angular velocity. (II)
6. Determine the graph and period of a trigonometric function. (III)
7. Evaluate inverse trigonometric functions. (IV)
8. Verify trigonometric identities. (V)
9. Solve trigonometric equations. (VI)
10. Use trigonometric formulas to solve application problems. (VII)
11. Find nth roots of complex numbers. (VIII)

GCCC Official Course Outline

I. Definition and properties of trigonometric functions
A. Trigonometric functions of acute angles
B. Solving right triangles
II. Circular Functions

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A. Radian measure
B. Length of an arc
C. Area of a sector
D. Linear and angular velocity
III. Graphs of trigonometric functions
A. Phase shift
B. Addition of ordinates
IV. Inverse trigonometric functions
V. Trigonometric identities
A. Fundamental identities
B. Verifying trigonometric identities
C. Sum and difference identities for cosine
D. Double-angle identities
E. Half-angle identities
VI. Conditional equations
VII. Trigonometric formulas
A. Law of sines
B. Law of cosines
VIII. Complex numbers
A. Trigonometric form of complex numbers
B. De Moivre's theorem
C. Roots of complex numbers