Planned Course: Pre-Calculus	Course Number: 308/309	Department: Math
Unit: Applications of Trigonometric Functions	Grade Level: 10-12	
Estimated Time: 30 days	Level/Track:	Date Approved: 08/20/02

Academic Standards	Skills/Knowledge	Activities	Assessment
2.2.11 Computation and Estimation F. Demonstrate skills for using computer spreadsheets and scientific or graphing calculators. 2.4.11 Mathematical Reasoning and Connections E. Demonstrate mathematical solutions to problems (e.g. in the physical sciences) 2.10.11 Trigonometry B. Identify, create, and solve practical problems involving right triangles using trigonometric functions and the Pythagorean Theorem.	The student will be able to find the value of trigonometric functions of acute angles. The student will be able to use the Complementary Angle Theorem to solve right triangle problems. The student will be able to solve SAA, ASA, and SSA triangles. The student will be able to solve SAS and SSS triangles. The student will be able to, given SSA, determine whether or not there are possible triangles, and if so, find the other side length and angle measures. The student will be able to , given SSS, SAS, ASA, AAS, or SSA, select the appropriate techniques to calculate the other side, angle measures and area of the triangle. The student will be able to solve applied problems using the Law of Sines or Law of	• Chalkboard examples • Exercises in textbook • Problems at chalkboard • Overhead transparencies • Classroom use of a calculator	• Tests • Quizzes • Homework • Graded notebook • Projects/group projects

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	Cosines. The student will be able to solve applied problems using right triangle trigonometry.		
2.2.11 Computations and Estimation F. Demonstrate skills for using computer spreadsheets and scientific or graphing calculators. 2.5.11 Mathematical Problem Solving and Communication A. Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems. B. Use symbols, mathematical terminology, standard notation, mathematical rules, graphing, and other types of mathematical	The student will be able to solve real world problems involving triangles.	• Chalkboard examples • Exercises in textbook • Problems at chalkboard • Classroom use of a calculator • Overhead transparencies	• Tests • Quizzes • Homework • Graded notebook • Projects/group projects

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representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results. C. Present mathematical procedures and results clearly, systematically, succinctly, and correctly. 2.10.11 Trigonometry B. Identify, create, and solve practical problems involving right triangles using trigonometric functions and the Pythagorean Theorem.			
2.2.11 Computation and Estimation F. Demonstrate skills for using computer spreadsheets and scientific or graphing calculators. 2.4.11 Mathematical Reasoning and	The student will be able to find the area of SSS and SAS triangles.	• Chalkboard examples • Exercises in textbook • Problems at chalkboard • Overhead transparencies • Worksheets	• Tests • Quizzes • Homework • Graded notebook • Projects/group projects

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Connections E. Demonstrate mathematical solutions to problems (e.g. in the physical sciences) 2.10.11 Trigonometry B. Identify, create, and solve practical problems involving right triangles using trigonometric functions and the Pythagorean Theorem.			

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