Math 128 Trigonometry

Credit Hours: 3
Scheduled hours per week
Lecture: 3
Lab: 0
Other: 0

Catalog Course Description: Topics include Degree/Radian measure, trigonometric functions and their values for all angles, vectors and oblique triangles, graphs of trig. functions, graphs of inverse trig. functions, trigonometric identities and equations, trig. form of complex numbers.
Applications and activities to build skills in problem solving included.

Pre-requisites: None

Co-requisites: None

Course Learning Outcomes:
Upon successful completion of MATH-128 Trigonometry, the student should be able to:
1) Define and evaluate trigonometric functions.
2) Solve right triangles using trigonometric functions.
3) Define radian measure and convert to and from degree measure of angles.
4) Solve application problems that include the use of right triangles, and/or radians.
5) Solve oblique triangles using the law of Sines or law of Cosine.
6) Solve application problems involving vectors.
7) Sketch the graphs of the trigonometric functions and state their domain and range.
8) State and prove fundamental trigonometric identities.
9) Define inverse trigonometric functions and use to solve conditional equations.
10) Solve trigonometric equations.
11) Trig. form of complex numbers. The product and quotient theorem. De Moivre's theorem.
12) Use the calculator/computer as appropriate.

Topics to be studied:

Angles and units of measure, radian and degree measure
Definition of trig functions
Circular functions and applications, exact values of trig functions, circular definition of trig functions
Solving right triangles and applications of right triangles
Solving oblique triangles, law of sines and cosines, ambiguous case, area of triangle
Vector techniques, component and resolution, inclined plane, wind velocity
Graphs of trig functions
Trig identities
Inverse trig functions
Solving trigonometric equations
The complex plane

Relationship of Course to Program or Discipline Learning Outcomes:

(What program outcomes are being met by this course?
For general education courses, a listing of the general education competencies that are met.)

Relationship of Course to Mathematics (MATH) Student Learning Outcomes:	
Demonstrate understanding of the language of mathematics, by their use of symbols, definitions, word phrases, and representations.	x
Display proficiency in mathematical computations.	x
Implement mathematical techniques to solve applied problems.	x
Employ appropriate technology to demonstrate knowledge of mathematical concepts.	x
Exhibit mastery of core course competencies.	x
10/20/2017	

Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	x
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
5/3/2016	

Special requirements of the course: None

Additional information: None

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