

SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

SYLLABUS (*Tentative*)

MATH 140 *College Algebra and Trigonometry*

Description: An applications-oriented college algebra and trigonometry course for students planning to study science or additional mathematics. Emphasizes computational, qualitative, visual and symbolic approaches. Four hours per week. **Credit may not be received for more than one of the following: MATH 102, 118, 122.**

Objective: To develop a foundation for collegiate-level mathematics.

Prerequisite: High School Algebra II and Geometry.

Text: “Algebra & Trigonometry Enhanced with Graphing Utilities,” by Sullivan & Sullivan; Prentice Hall, Fifth Edition, 2009.

Technology: A graphing calculator or software will be used to support the course.

	Weeks
<i>Graphs, Equations and Inequalities</i>	2.0
Solving equations and inequalities. Graphing equations, lines and circles.	
<i>Functions and their Graphs</i>	2.0
Functions. Operations on Functions. Graphing Functions. Mathematical Models.	
<i>Polynomial and Rational Functions</i>	2.0
Power Functions. Polynomial Functions. Rational Functions. Real Zeros. Complex Zeros.	
<i>Exponential and Logarithmic Functions</i>	2.0
Composite Functions. Inverse Functions. Properties of Exponential Functions. Properties of Logarithms. Solving Exponential and Logarithmic equations. Compound interest. Growth and decay.	
<i>Trigonometric Functions</i>	2.0
Angles. Right triangle trigonometry. Trigonometric values at special and at general angles. Unit Circle. Graphs of trigonometric functions.	
<i>Analytic Trigonometry</i>	1.5
Inverse Trigonometric Functions. Trigonometric identities and formulas. Solving Trigonometric equations.	
<i>Applications of Trigonometric Functions</i>	1.5
Solving right triangles. Laws of Sines and Cosines. Areas of triangles.	
<i>Tests</i>	<u>1.0</u>
	14.0

APPROXIMATE EVALUATION

Quizzes & Selected Problems	15 - 25%
Tests (4)	50 - 60%
Final Exam	15 - 25%

Free tutoring is available for this course during the Spring and Fall semesters.