COURSE SYLLABUS

MAT 156     Trigonometry

CREDIT HOURS:  3.00

CONTACT HOURS:  45.00

COURSE DESCRIPTION:
In this course the translation of functions is reviewed. New topics include the study and graphing of trigonometric functions, inverse trigonometric functions, right triangle trigonometry, trigonometric identities and equations, the Laws of Sines and Cosines with applications, and Polar Coordinates are introduced.

PREREQUISITES:  MAT 155 or by placement

EXPECTED COMPETENCIES:
Upon successful completion of this course, the student will:
1. Discuss functions
2. Discuss graphs of functions
3. Present shifting, reflecting, and stretching graphs
4. Discuss combinations of functions
5. Define inverse functions
6. Explore data: linear models and scatter plots
7. Solve quadratic functions
8. Present polynomial functions of higher degree
9. Present The Fundamental Theorem of Algebra
10. Discuss rational functions and asymptotes
11. Explore graphs of rational functions
12. Introduce exponential functions and their graphs
13. Present logarithmic functions and their graphs
14. Discuss properties of logarithms
15. Solve exponential and logarithmic equations
16. Present exponential and logarithm models
17. Explore data: Nonlinear models
18. Introduce radian and degree measure
19. Present trigonometric functions: The unit circle
20. Discuss right triangle trigonometry
21. Introduce trigonometric functions of any angle
22. Graph sine and cosine functions
23. Graph other trigonometric functions
24. Discuss inverse trigonometric functions
25. Present applications and models
26. Use the fundamental identities
27. Verify trigonometric identities
28. Solve trigonometric equations
29. Discuss Sum and Difference Formulas
30. Introduce Multiple-Angle and Product-Sum Formulas
32. Introduce vectors in the plane  
33. Introduce conics: Parabolas, Ellipses and Hyperbolas

**ASSESSMENT METHODS:**

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

**GRADING SCALE:**

90%-100% = A  
80%-89.9% = B  
70%-79.9% = C  
60%-69.9% = D  
<60% = E