



Course Outcome Summary

Standard Course

Math 164 Precalculus

Course Information

Division	Science/Mathematics
Contact Hours	60
Total Credits	4 (four)
Prerequisites	A grade of C or better in MATH 151 or a grade of C or better in MATH 105 with instructor permission, or qualifying scores on accepted placement tests.

Course Description

This course emphasizes the study of polynomial, exponential, logarithmic and trigonometric functions. Other topics considered are complex numbers, trigonometric identities, systems of equations and analytic geometry. The purpose of this course is to provide knowledge and skills in mathematics of advanced algebraic and trigonometric concepts for applications in situations that require the use of quantitative processes. This course serves as a core requirement in many baccalaureate programs and provides prerequisite concepts and skills needed in business, mathematics, engineering and in the physical sciences for continued study in calculus.

Course Outcomes

In order to evidence success in this course, students will be able to:

1. Find the solution set of linear and quadratic equations and inequalities algebraically and with a graphing calculator.
2. Graph polynomial and rational functions with or without a graphing calculator.
3. Solve equations and inequalities involving third and fourth degree polynomials algebraically and with a graphing calculator.
4. Solve equations involving exponential or logarithmic functions algebraically and with a graphing calculator.
5. Solve systems of equations and inequalities algebraically and with a graphing calculator.
6. Apply matrix theory to solve systems of equations algebraically and with a graphing calculator.
7. Graph the trigonometric functions.
8. Solve equations involving trigonometric functions.
9. Identify and evaluate the principal values for the conic sections.
10. Transform a polynomial functions and conic sections by translation or rotation of axes.
11. Calculate the determinant of a matrix.
12. Prove statements true by mathematical induction.
13. Find the sum of terms or the n^{th} term of a series.
14. Solve equations involving higher degree polynomials using complex numbers.

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By: Kathy Shepherd