

# MATHEMATICS

## **Calculus I MAT 231**

Major topics covered in the course are: limits, derivatives, graphs using limits and derivatives, and verbal applications that use derivatives.

## **Calculus II MAT 232**

Major topics covered in the course are: a continuation of Calculus I; antiderivatives, integration by u-substitution; areas as limits; the definite integral; area between two curves; volumes, length of plane curves; area of surface of revolution; logarithms and exponential functions; first-order differential equations; inverse functions; inverse trigonometric functions and their derivatives; integration by parts; and integration of powers of sine, cosine, secant, and tangent. Verbal problems requiring the above.

## **College Algebra MAT 121**

Major topics covered in the course are: algebraic expressions, real and complex numbers, equations and inequalities, algebraic and graphic solutions, verbal applications and introduction to functions.

## **Introduction to Statistics STA 201**

Major topics covered in the course are: measurement scales, sources of data, descriptive statistics, data display, univariate measure of location and variability, basic probability, normal curve and applications, correlation and regression, inferential statistics, probability theory, binomial distribution, and parametric and nonparametric tests of significant difference.

## **Linear Algebra MAT 320**

Major topics covered in the course are: vectors, linear equations and systems of linear equations, matrices, vector spaces, basis and dimension, linear transformations, determinants, eigenvalues and eigenvectors, characteristic equation, diagonalization, and general inner products.

## **Pre-calculus MAT 129**

Major topics covered in the course are: skills in solving equations of all types, in graphing linear, trigonometric, logarithmic, exponential and rational equations as well as conic sections, and in solving verbal applications of the above.