

Course Descriptions

Mathematics

MATH 0003 Pre-Algebra

Designed as a three-hour course to place an emphasis on arithmetic skills needed for success in algebra (addition, subtraction, multiplication, division). Rules for operations on signed numbers, concepts of integers, fractions, decimals and percents will be studied. Simple equation solving and formula manipulations are also included. This course meets the deficiency requirements for students who do not meet entrance requirements by either high school course work or test scores.

MATH 0023 Concepts of Algebra

Previous study in algebra is not assumed. The topics studied will prepare a foundation to study intermediate algebra before taking college algebra. The topics covered are linear equations, laws of exponents, factoring, factoring applications, story problems, and substituting data into formulas. A comprehensive review of arithmetic procedures is incorporated throughout the course. This course meets the deficiency requirements for students who do not meet entrance requirements by either high school course work or test scores.

MATH 0123 Intermediate Algebra

Designed to provide in-depth applications of algebra necessary to complete college-level mathematics. Intermediate Algebra includes topics such as factoring, algebraic expressions, simplifying radical expressions, equations and graphing linear equations in two variables. This course meets the deficiency requirements for students who do not meet entrance requirements by either high school course work or test scores. Prerequisite: MATH 0023 Concepts of Algebra.

MATH 1104 Technical Math-Algebra/Trigonometry

A course designed for those students entering the electronics field. Students will study algebraic fractions, fractional equations, graphs, simultaneous equations, determinants, exponents and radicals, quadratic equations, network amplification, angles, phasor algebra and logarithms. In addition, this course involves the study of right angles, trigonometric functions, trigonometric tables, trigonometric identities and equations and applied trigonometry to electronic problem solving.

MATH 1233 Logic/Problem Solving

This course studies the science of formal reasoning and explores the systematic approach to problem solving and logical thinking. Prerequisite: MATH 0023 Concepts of Algebra.

MATH 1483 Math Functions

This course is designed to analyze functions using equations, graphs, and tables from the viewpoint of rates of change. It explores linear, exponential, logarithmic, and other functions with applications to the natural sciences, agriculture, business, and the social sciences. Not appropriate for students in math, science, or engineering majors. Prerequisite: MATH 0123 Intermediate Algebra or appropriate COMPASS score.

MATH 1493 Mathematical Applications

A college level math course that fulfills the general education requirement. This course is intended for students who are not destined for an engineering-oriented or business oriented calculus course. The topics covered will include but not be limited to ratio and proportion, APR, simple statistical measures, probability, area, perimeter, volume, stocks and bonds. Application to natural sciences, business, economics and social sciences will be explored. This is a terminal mathematics course and will not be used as a pre-requisite to any other mathematics course, but will fulfill the general education math requirement. Pre-requisite: MATH 0023 Concepts of Algebra or appropriate score on COMPASS.

MATH 1513 College Algebra

Advanced topics in quadratics, systems of equations, permutations, combinations, theory of equations, theory of logarithms, and exponentials. Prerequisite: MATH 0123 Intermediate Algebra or appropriate score on COMPASS.

MATH 1613 Plane Trigonometry

Trigonometric functions, the solution of right and oblique triangles, graphing and identities; the application of trigonometry to physics, surveying, astronomy, and allied subjects, complex numbers, trigonometric equations and inverse trigonometric functions. Prerequisite: MATH 1513 College Algebra.

MATH 1715 College Algebra & Trigonometry

Advanced topics in quadratics, polynomial and rational functions, systems of equations, logarithmic and

exponential functions, combinatorics, binomial theorem, sequences and series; trigonometric identities, functions, graphs of trig functions, solutions of trigonometric equations, applications with right triangles, laws of sines and cosines, vectors and applications polar coordinates and graphs. The content emphasis is pre-calculus. Prerequisite: MATH 0123 Intermediate Algebra or appropriate score on COMPASS.

MATH 2023 Elementary Statistics

Descriptive measures, probability, sampling distributions, estimation and hypotheses testing, chi-square, regression and correlation, analysis of variance. Appropriate for business, economics, natural science, health science, social science and education majors. Prerequisite: MATH 1513 College Algebra or MATH 1483 Math Functions.

MATH 2103 Elementary Calculus

An introduction to differential and integral calculus, with applications appropriate for students of Business, Economics, Accounting, Natural Sciences and Social Science. Prerequisite: College Algebra (MATH 1513) or MATH 1483 Math Functions.

MATH 2145 Calculus I

The first of a two semester sequence in integrated analytics and calculus. The course includes the following topics: Introductory Analytic Geometry, lines, slopes, circles, functions, limits, indeterminate forms, differentiation of algebraic, trigonometric and other transcendental functions, applications of differentiation, basic integration techniques and applications, advanced integration techniques and improper integrals. Prerequisite: College Algebra and Trigonometry.

MATH 2155 Calculus II

The course includes the following topics: Infinite sequences and series, conic sections, polar coordinates, parametric equations, vectors and analytic geometry in two and three dimensions, vector valued functions, functions and calculus of several variables, multiple integrals, integration in vector fields, including line integrals, surface integrals and Green's Theorem. Prerequisite: MATH 2145 Calculus I or equivalent.

MATH 2233 Mathematical Concepts for Educators

This course is a study of the fundamental structures of mathematics for non-mathematics majors. Topics include: critical thinking, problem solving, sets and set theory, logic and pre-algebra skills. This course was specifically designed for Pre-Education and FSCD majors and will satisfy the college level math requirement for pre-education majors (elementary education, special education, early childhood education). FSCD majors can use this course as an approved elective. Prerequisite: MATH 1493 Math Applications or MATH 1513 College Algebra.

MATH 2243 Geometry Concepts for Educators

This course is a study of the fundamental structures of geometry for non-mathematics majors. Topics include: graphing, lines and their slopes, linear, quadratic, exponential, and log functions, perimeter, area, and volume, basic trig, basic probability and statistics. This course was specifically designed for Pre-Education and FSCD majors and will satisfy the college-level math requirement for pre-education majors (elementary education, special education, early childhood education). FSCD majors can use this course as an approved elective.

MATH 2373 Technical Math-Applied Calculus

Application is to the field of electronics. This course is a study of functions, average rate of changes, exact rates, limits, derivatives, applied derivatives, differentials, higher derivatives, integrals, applied integrals, logarithmic and exponential functions, Maclaurin's series, Taylor series, Fourier series and Laplace transforms.

MATH 2613 Differential Equations

Basic definitions and techniques of solving differential equations, techniques for solving first and higher order differential equations and their applications, operator methods, Laplace transforms, solution of systems of differential equations. Offered spring semester only. Prerequisite: MATH 2155 Calculus II.