
Math (MATH)

MATH 100 **Prealgebra** (3)

Class Hours: 54 Lecture

Prerequisite(s): MATH-BASE

MATH 100 is designed to prepare students for MATH 061 (Elementary Algebra). Topics include fractions, decimals, ratios and proportion, percentages, unit analysis and conversions, geometry, algebraic expressions and linear equations in one variable. This course requires a minimum placement score on the Math Placement Exam.

MATH 001A **Introduction to Calculus** (5)

Class Hours: 90 Lecture

Prerequisite(s): MATH 015

Transfers to: UC/CSU

MATH 001A is an introduction to differential calculus of elementary functions (including trigonometric, exponential, and logarithmic). The course covers limits, continuity, derivatives, basic integrals, the Fundamental Theorem, and applications.

MATH 001B **Calculus With Applications** (5)

Class Hours: 90 Lecture

Prerequisite(S) MATH 001A:

Transfers to: UC/CSU

MATH 001B is an introduction to integral calculus. The course covers techniques of integration, applications of integration, improper integrals, polar coordinates, and infinite series.

MATH 002A **Multivariate Calculus** (4)

Class Hours: 72 Lecture

Prerequisite(s): MATH 001B

Transfers to: UC/CSU

C-ID: MATH 230

MATH 002A is concerned with three-dimensional vectors, lines and plans, vector-valued functions, partial derivatives, multiple integrals and calculus of vector fields. (Please Note: This course is offered infrequently.)

MATH 002B **Differential Equations** (4)

Class Hours: 72 Lecture

Prerequisite(s): MATH 002A

Transfers to: UC/CSU

MATH 002B is the study of first-order linear differential equations and their applications in science and engineering, linear differential equations of higher order, applications of second-order differential equations to vibrational models, differential equations with variable coefficients, Laplace transformations and systems of linear differential equations. (Please note: This course is offered infrequently.)

MATH 010A **Structure & Concepts in Mathematics I** (3)

Class Hours: 54 Lecture

Prerequisite(s): MATH 063

Transfers to: UC/CSU

C-ID: C-ID MATH 120

MATH 010A is designed for prospective elementary school teachers. The course covers the development of real numbers including integers, rational and irrational numbers, computation, prime numbers and factorizations, and problem solving strategies. This class does not satisfy G.E. math requirements for non-Liberal Studies majors.

MATH 010B Structure & Concepts in Mathematics II (3)

Class Hours: 54 Lecture

Prerequisite(s): MATH 010A

Transfers to: UC/CSU

MATH 010B is designed for prospective elementary school teachers. The course covers counting methods, elementary probability and statistics. Topics from geometry include polygons, congruence and similarity, measurement, geometric transformations, coordinate geometry, and selected applications. This class does not satisfy the G. E. quantitative reasoning requirement for non- Liberal Studies majors at four-year institutions.

MATH 015 Precalculus (5)

Class Hours: 90 Lecture

Prerequisite(s): MATH 063 (Required, Previous or concurrent).

Transfers to: UC/CSU

MATH 015 is an intensive course covering those topics traditionally found in the separate courses of trigonometry and college algebra. This course will include an in-depth analysis and application of linear, quadratic, polynomial, rational, exponential, logarithmic, trigonometric functions and their graphs, systems of equations, and analytic geometry.

MATH 016 Precalculus and Trigonometry (6)

Class Hours: 108 Lecture

Prerequisite(s); MATH 063 or MATH 064:

Transfers to: CSU

MATH 016 is designed to prepare students for calculus, and includes the study of polynomial, absolute value, radical, rational, exponential, and logarithmic functions, analytic geometry, and polar coordinates. The study of trigonometric functions, their inverses and their graphs, identities and proofs related to trigonometric expressions, trigonometric equations, solving right triangles, solving triangles using the Law of Cosines and the Law of Sines, and introduction to vectors.

MATH 025 Introduction to Statistics (4)

Class Hours: 72 Lecture

Prerequisite(s): MATH 063 or MATH 064 (Required, Previous or concurrent).

Transfers to: UC/CSU

C-ID: MATH 110

MATH 025 is an introduction to the use of predictive techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.

MATH 045 Contemporary Math (3)

Class Hours: 54 Lecture

Prerequisite(s): MATH 063

Transfers to: UC/CSU

MATH 045 is a college level liberal arts mathematics course surveying a collection of topics including Management Science, Social Choice, Statistics and Growth and Symmetry. (Satisfies CSU Fresno Gen. Ed. CORE, Quantitative Reasoning).

MATH 049 Mathematics Directed Study (1 - 2)

Class Hours: 108 Laboratory

Transfers to: CSU

MATH 049/099 are designed for student who wish to undertake special projects related to mathematics. Students, under instructor guidance and acknowledgement, may pursue individual exploration after completing or while currently enrolled in at least one course in the department of directed study.

MATH 061 Elementary Algebra**(5)***Class Hours: 90 Lecture**P/NP**Prerequisite(s): MATH 101 or MATH 100*

MATH 061 is the first course in a two semester sequential elementary and intermediate algebra program. Topics for elementary algebra include arithmetic review, solving linear equations and inequalities in one variable, graphing linear equations and inequalities in two variables, solving linear systems, operations with polynomials, solving equations by factoring, operations with rational expressions, and addition of radical expressions.

MATH 063 Intermediate Algebra**(5)***Class Hours: 90 Lecture**P/NP**Prerequisite(s): MATH 061*

MATH 063 is the second course in a two semester sequential elementary and intermediate algebra sequence. Topics for intermediate algebra include factoring, solving quadratic, rational and radical equations, inequalities, integer and rational exponents, graphing conics, functions, scientific notation, and applications.

MATH 064 Elementary and Intermediate Algebra**(5)***Class Hours: 90 Lecture**Prerequisite(s): MATH 101 or MATH 100 (Required, Previous or concurrent).**Advisory(s): Prior exposure to beginning or intermediate algebra topics. (Recommended, Previous or concurrent).*

MATH 064 covers Elementary and Intermediate Algebra in one semester, eliminating the repetitiveness of the traditional two-semester sequence. This course is designed for students who either have had some previous exposure to elementary algebra or have a facility for learning math. This course satisfies the intermediate algebra requirement for any transfer-level math course.
