

COURSES

MATHEMATICS COURSES

MAT 000C Intermediate Algebra (5.0 Lecture) 5.0 UNITS

Prerequisite MAT 903 or placement into the course by the Mission College Mathematics Placement Exam. ; or Prerequisite MAT 903M or placement into the course by the Mission College Mathematics Placement Exam. and Prerequisite MAT 903MX or placement into the course by the Mission College Mathematics Placement Exam. The student will study fundamental laws of exponents and radicals, quadratic equations, graphical representations, complex numbers, functions and inverses, logarithmic and exponential functions, conic sections, sequences and series, linear systems and inequalities, and applied problems.

MAT 000D Trigonometry (3.0 Units) 3.0 UNITS

Prerequisite Placement into Math D or higher by the Mission College Mathematics Placement Exam , or Prerequisite MAT 000C ; or Prerequisite MAT 000CM and Prerequisite MAT 000CMX Students study trigonometric functions including applications to triangles, circular functions, radian measure, graphs and polar coordinates, trigonometric identities, inverse trigonometric functions, vectors, and complex numbers.

MAT 000G Mathematics for the Liberal Arts Student (4.0 Units) 4.0 UNITS

Prerequisite Placement into Math G or higher by the Mission College Mathematics Placement Exam ; or Prerequisite MAT 000C or Prerequisite MAT 000CM This course introduces creative thinking skills using fascinating examples, problem solving, self-exploration, and expository work. Topics may include: sequences and series, probability and statistics, countable and uncountable sets, and the Pythagorean Theorem.

MAT 001 College Algebra (4.0 Units) 4.0 UNITS

Prerequisite MAT 000C or satisfactory score on an appropriate Mathematics Placement Exam or Prerequisite MAT 000CM This college-level course in algebra covers the following topics: polynomial, rational, radical, exponential, absolute value, and logarithmic functions; systems of equations; theory of polynomial equations; and analytic geometry.

MAT 001X College Algebra With Additional Support (6.0 Units) 6.0 UNITS

Total Lecture: 108 hours. Prerequisite: Completion of the Mission College Placement Process prior to registration. Acceptable for credit: University of California, California State University. This is a college-level course in preparation for the Calculus sequence. Its contents include real and complex number systems, polynomials, algebraic fractions, exponents and radicals, linear and quadratic equations, simultaneous equations, inequalities, functions, theory of equations, exponential and logarithmic equations, sequence and series, induction, and the binomial theorem. Areas of support will include review algebraic and basic geometric topics that underlie College Algebra concepts and practice reading skills and other study skills that promote success in College Algebra. Pass/No Pass Option. CSUGE: B4; IGETC: 2A.

MAT 002 Precalculus and Trigonometry (6.0 Units) 6.0 UNITS

Prerequisite MAT 000C or Prerequisite MAT 000CM or Prerequisite Satisfactory score on an appropriate Mathematics Placement Exam. This course incorporates all topics found in pre-calculus algebra (MAT 001) and trigonometry (MAT 000D). This is an intensive course for the highly motivated and very well prepared student.

MAT 003A Analytic Geometry and Calculus I (5.0 Lecture) 5.0 UNITS

Prerequisite MAT 002 or placement into the course by the Mission College Mathematics Placement Exam. ; or Prerequisite MAT 000D or higher or satisfactory score on an appropriate Mathematics Placement Exam. and Prerequisite MAT 001 or placement into the course by the Mission College Mathematics Placement Exam. This is the first part of the three-semester calculus sequence. Topics include functions, limits, continuity, differentiation and integration, and applications for polynomial and transcendental functions.

MAT 003AH Analytic Geometry and Calculus I - Honors (5.0 Lecture) 5.0 UNITS

This course is the honors version of the Calculus I course and is the first part of the three-semester calculus sequence. Topics include functions, limits, continuity, differentiation and integration, and applications for polynomial and transcendental functions. Students may not receive credit for both MATH 003A and MATH 003AH. This section requires enrollment in the Honors Transfer Project. More information and the online application can be found at <http://honors.missioncollege.edu>.

MAT 003B Analytic Geometry and Calculus II (5.0 Lecture) 5.0 UNITS

Prerequisite MAT 003A or Prerequisite MAT 003AH This is the second part of the three-semester calculus sequence. Topics include infinite series, vectors in the plane, parametric equations, conic sections, polar coordinates and integration techniques with applications.

MAT 004A Multivariable Calculus (4.0 Units) 4.0 UNITS

This course covers vector-valued functions, calculus of functions of more than one variable, partial derivatives, multiple integration, Green's Theorem, Stokes' Theorem, and the divergence theorem.

MAT 004B Differential Equations (4.0 Units) 4.0 UNITS

Topics include ordinary differential equations, with emphasis on linear equations, and partial differential equations. Methods include Laplace Transforms, power series, Fourier series, numerical solutions and applications.

MAT 004C Linear Algebra (4.0 Units) 4.0 UNITS

This course covers basic linear algebra including systems of linear equations, Gaussian elimination, determinants, matrices, vector spaces, transformations, eigenvalues, and eigenvectors.

MAT 005 Programming and Problem-Solving in MATLAB (3.0 Units) 3.0 UNITS

Prerequisite MAT 003A or Prerequisite MAT 003AH or higher. This course utilizes the MATLAB environment to provide students with a working knowledge of computer-based problem-solving methods relevant to mathematics, science and engineering. Topics include procedural and object-oriented programming, two- and three-dimensional graphing, data import and export, curve fitting, recursion and applications in engineering, physics, and mathematics.

MAT 010 Elementary Statistics (4.0 Units) 4.0 UNITS

Prerequisite MAT 000C or Prerequisite MAT 000CM or successful placement into the course based on the Mission College Mathematics Placement Exam , or Prerequisite Completion of, or placement into, any higher-level math. Students study probability, descriptive and inferential statistics including probability distribution, hypothesis testing, linear regression and applications. Current statistical computer packages are used.

MAT 010H Elementary Statistics - Honors (4.0 Units) 4.0 UNITS

This course is the honors version of Elementary Statistics. This course provides students with a comprehensive introduction to statistical methods and research. Current statistical computer packages are used. Students may not receive credit for both MATH 010 and MATH 010H. This section requires enrollment in the Honors Transfer Project. More information and the online application can be found at <http://honors.missioncollege.edu>.

MAT 010X Elementary Statistics with Additional Support (6.0 Units) 6.0 UNITS

Total Lecture: 108 hours. Prerequisite: Completion of the Mission College Placement Process prior to registration. Acceptable for credit: University of California, California State University Students study and demonstrate knowledge and understanding of descriptive and inferential statistics including data analysis, correlation and linear regression, probability, probability distributions and assorted hypothesis testing. Particular emphasis is placed on applications. Current technology is used. Areas of support will include review of arithmetic and algebra topics that underlie statistical procedures and concepts, hands-on activities that promote a deeper understanding of statistical ideas, and study skills that promote success in statistics. Pass/No Pass Option. C-ID # MATH 110. CSUGE: B4; IGETC: 2A.

MAT 012 Calculus for Business (4.0 Units) 4.0 UNITS

Prerequisite MAT 000C or placement into MAT 12 or higher by the Mission College Mathematics Placement Exam. ; or Prerequisite or placement into MAT 12 or higher by the Mission College Mathematics Placement Exam. Course topics include the intuitive concept of a limit, and simple techniques of differential and integral calculus and their most common applications in business. This course is not equivalent to MAT 003A.

MAT 019 Discrete Mathematics (4.0 Units) 4.0 UNITS

Prerequisite MAT 001 or successful placement into the course based on the Mission College Mathematics Placement Exam, or Prerequisite MAT 002 This course covers discrete mathematics appropriate for computer applications. Topics may include graphs, sets, logic, mathematical induction, functions and relations, sequences and series, matrices, combinatorics, Boolean algebra, algebraic structures, and computer implementation.