

Course SLOs aligned with Program SLOs

San Mateo CCCD CAN Institutional SLOs

Select, evaluate, and use information to investigate a point of view, support a conclusion, or engage in problem solving.

No Course Outcomes related to this ISLO.

Produce, combine, or synthesize ideas in creative ways within or across disciplines.

No Course Outcomes related to this ISLO.

Use language to effectively convey an idea or a set of facts, including the accurate use of source material and evidence according to institutional and discipline standards.

CAN Dept - Mathematics

CAN MATH 200 - Elem Probability & Statistics

Course Outcomes:

- * Terminology - Define statistical terms. (Created By CAN Dept - Mathematics)

Understand and interpret various points of view that emerge from a diverse world of peoples and cultures.

CAN Dept - Mathematics

CAN MATH 140 - Math For Gen Education

Course Outcomes:

- * History - Relate a knowledge of the people, history and uses of mathematics through research papers, projects, presentations, and class discussions. (Created By CAN Dept - Mathematics)

Represent complex data in various mathematical forms (e.g., equations, graphs, diagrams, tables, and words) and analyze these data to draw appropriate conclusions.

CAN Dept - Mathematics

CAN MATH 110 - Elementary Algebra

Course Outcomes:

- * Applying and Solving Quadratic and Rational Equations - 4. Construct and solve quadratic and rational equations to model a given application.
 - a. Apply factoring techniques to solve quadratic equations.
 - b. Use appropriate methods to solve rational equations.
 - c. Verify that solutions comply with any constraints in the model.
 - d. Model and solve word problems whose solutions require formulating one variable quadratic or rational equations.(Created By CAN Dept - Mathematics)
- * Graphing Lines - 3. Construct and analyze a linear graph in a Cartesian coordinate system.
 - a. Use different methods to graph a two-variable linear equation.
 - b. Interpret the graph.(Created By CAN Dept - Mathematics)
- * Simplify Polynomials and Rational Expressions - 2. Simplify polynomials, and rational expressions.
 - a. Use appropriate techniques to multiply, divide, add, and subtract polynomials and rational expressions.
 - b. Simplify expressions with integer exponents.(Created By CAN Dept - Mathematics)
- * Solve Linear Equations - 1. Solve linear algebraic equations and inequalities that model a given application.
 - a. Translate a statement into an appropriate one-variable linear equation or inequality.
 - b. Use appropriate strategies to find the solutions.
 - c. Model and solve word problems whose solutions require formulating one variable linear equations.(Created By CAN Dept - Mathematics)
- * Systems of Equations - 5. Solve a two by two system of linear equations.
 - a. Identify the different types of systems and their graphical interpretations.
 - b. Use different methods to solve a system of two linear equations.(Created By CAN Dept - Mathematics)

CAN MATH 111 - Elementary Algebra I

Course Outcomes:

- * Apply and Solve linear Equations - 1. Solve linear algebraic equations and inequalities that model a given application.
 - a. Translate a statement into an appropriate one-variable linear equation or inequality.
 - b. Use appropriate strategies to find the solutions.
 - c. Model and solve word problems whose solutions require formulating one variable linear equations.
 (Created By CAN Dept - Mathematics)
- * Linear Graphs - 2. Construct and analyze a linear graph in a Cartesian coordinate system.
 - a. Use different methods to graph a two-variable linear equation.
 - b. Interpret the graph.
 (Created By CAN Dept - Mathematics)

CAN MATH 112 - Elementary Algebra II

Course Outcomes:

- * Apply and Solve Quadratic and Rational Equations - 2. Construct and solve quadratic and rational equations to model a given application.
 - a. Apply factoring techniques to solve quadratic equations.
 - b. Use appropriate methods to solve rational equations.
 - c. Verify that solutions comply with any constraints in the model.
 - d. Model and solve word problems whose solutions require formulating one variable quadratic or rational equations.
 (Created By CAN Dept - Mathematics)
- * Simplify Polynomials and Rational Expressions - 1. Simplify polynomials, and rational expressions.
 - a. Use appropriate techniques to multiply, divide, add, and subtract polynomials and rational expressions.
 - b. Simplify expressions with integer exponents.
 (Created By CAN Dept - Mathematics)
- * Systems of Equations - 3. Solve a two by two system of linear equations.
 - a. Identify the different types of systems and their graphical interpretations.
 - b. Use different methods to solve a system of two linear equations.
 (Created By CAN Dept - Mathematics)

CAN MATH 115 - Geometry

Course Outcomes:

- * Proof - Complete a two column proof, a proof using inductive reasoning, or a proof by contradiction (Created By CAN Dept - Mathematics)
- * Volumes and areas - Calculate the volumes or areas for geometric solids or plan figures (Created By CAN Dept - Mathematics)

CAN MATH 120 - Intermediate Algebra

Course Outcomes:

- * Analyze and solve equations - Analyze and solve quadratic, exponential, and logarithmic equations. (Created By CAN Dept - Mathematics)
- * Graph and analyze functions - Graph and analyze linear, quadratic, exponential, and logarithmic functions. (Created By CAN Dept - Mathematics)
- * Use and interpret function notation - Use and interpret function notation in algebraic, numerical, verbal, and graphical contexts. (Created By CAN Dept - Mathematics)
- * Using equations to model - 1: Write and solve linear, quadratic, exponential, and logarithmic equations and inequalities that model a given application. (Created By CAN Dept - Mathematics)

CAN MATH 122 - Intermediate Algebra I

Course Outcomes:

- * Exponential and logarithmic equations - Analyze and solve exponential and logarithmic equations (Created By CAN Dept - Mathematics)
- * Graph - Graph and analyze linear, exponential, and logarithmic functions. (Created By CAN Dept - Mathematics)
- * Solve Equations - Write and solve linear, exponential, and logarithmic equations and inequalities that model a given application. (Created By CAN Dept - Mathematics)
- * Use and interpret function notation - Use and interpret function notation in algebraic, numerical, verbal, and graphical contexts. (Created By CAN Dept - Mathematics)

CAN MATH 123 - Intermediate Algebra II

Course Outcomes:

- * Simplify expressions - Simplify and perform operations with rational and radical equations (Created By CAN Dept - Mathematics)
- * Solve equations - Solve rational, radical, and absolute value equations (Created By CAN Dept - Mathematics)
- * Solve proportion and variation problems - Solve and interpret applications involving proportions and variation (Created By CAN Dept - Mathematics)

CAN MATH 125 - Elementary Finite Mathematics

Course Outcomes:

- * Counting - Use counting methods to solve probability problems (Created By CAN Dept - Mathematics)
- * Financial - Use the simple interest, compound interest, future value, and present value formulas to solve financial problems (Created By CAN Dept - Mathematics)

- * Matrices - Solve a system of equations using matrices and row operations (Created By CAN Dept - Mathematics)
- * Probability - Find expected values of a random variable (Created By CAN Dept - Mathematics)
- * Simplex method - Use the simplex method to solve a standard maximization problem (Created By CAN Dept - Mathematics)

CAN MATH 130 - Analytical Trigonometry

Course Outcomes:

- * Graphs - Produce and interpret graphs of the six trigonometric functions including transformations (Created By CAN Dept - Mathematics)
- * Identities - Use algebra and identities to derive or verify identities. (Created By CAN Dept - Mathematics)
- * Modeling periodic behavior - Use Trigonometric functions to model periodic behavior. (Created By CAN Dept - Mathematics)
- * Six Trig functions - State and apply correctly the various definitions, values for key angles, and basic identities for the six trigonometric functions. (Created By CAN Dept - Mathematics)
- * Solve Triangles - Solve triangles using the definitions of the trigonometric functions, the law of sines, or the law of cosines. (Created By CAN Dept - Mathematics)
- * Trig equations - Use algebra and identities to solve trigonometric equations. (Created By CAN Dept - Mathematics)

CAN MATH 140 - Math For Gen Education

Course Outcomes:

- * Logic - Use critical thinking to arrive at conclusions from Venn Diagrams, syllogistic forms, and truth tables. (Created By CAN Dept - Mathematics)
- * Probability and Statistics - Demonstrate a knowledge of probability and statistics by solving a variety of counting problems, by calculating the probability of games of chance, and by analyzing statistical data. (Created By CAN Dept - Mathematics)
- * problem solving - Apply mathematical principles and techniques to solve problems in areas such as systems of numeration, algebraic modeling, basic trigonometry, probability, statistics, and math of finance. (Created By CAN Dept - Mathematics)

CAN MATH 200 - Elem Probability & Statistics

Course Outcomes:

- * Central tendency and variation - Compute measures of central tendency and variation (Created By CAN Dept - Mathematics)
- * Hypothesis testing - Given an inferential statistics problem, identify the appropriate hypothesis test, perform the hypothesis test, and interpret the results. (Created By CAN Dept - Mathematics)
- * Plots - Plot histogram, scatter plot, box plot (Created By CAN Dept - Mathematics)
- * Probability - Identify and apply the basic laws of probability such as complements, independence, and the role of probability in statistics (Created By CAN Dept - Mathematics)

CAN MATH 222 - Pre-Calculus Col Algebra/Trig

Course Outcomes:

- * polynomial and rational functions - Describe the short run and long run behavior of polynomial and rational functions. (Created By CAN Dept - Mathematics)
- * recognize functions - Recognize and classify a function from an equation, graph, or table (Created By CAN Dept - Mathematics)
- * transformations - Identify and apply transformations to functions and graphs, including vertical and horizontal shifts, reflections, and scaling. (Created By CAN Dept - Mathematics)

CAN MATH 241 - Applied Calculus I

Course Outcomes:

- * Antiderivatives - Find and apply the antiderivative of a function (Created By CAN Dept - Mathematics)
- * Derivatives - Find and interpret the derivatives of polynomial, rational, piecewise defined, exponential, and logarithmic functions including those requiring the product, quotient, and chain rules (Created By CAN Dept - Mathematics)
- * Extrema and optimization - Find and apply relative extrema, absolute extrema, and points of inflection. (Created By CAN Dept - Mathematics)
- * Integrals - Evaluate and apply definite integrals (Created By CAN Dept - Mathematics)
- * Related Rates - Solve related rates problems (Created By CAN Dept - Mathematics)

CAN MATH 242 - Applied Calculus II

Course Outcomes:

- * Calculus with Trig functions - Evaluate and apply the derivatives and integrals involving the sine and cosine functions. (Created By CAN Dept - Mathematics)
- * Differential Equations - Solve separable and first order linear differential equations (Created By CAN Dept - Mathematics)
- * Numerical methods of integration - Use a graphing calculator and numerical methods (left hand sum, right hand sum, midpoint rule, trapezoid rule, and Simpson's rule) to approximate integrals. (Created By CAN Dept - Mathematics)
- * Optimization - Use the second derivative test for 2 variables and Lagrange multipliers to optimize functions of 2 or more variables. (Created By CAN Dept - Mathematics)

- * Partial Derivatives - Find and Interpret partial derivatives (Created By CAN Dept - Mathematics)
- * Techniques of integration - Apply the techniques of substitution, integration by parts, and integration tables to evaluate integrals (Created By CAN Dept - Mathematics)

CAN MATH 251 - Calculus/Analytic Geometry I

Course Outcomes:

- * apply derivatives - Apply derivatives to related rates and optimization problems. (Created By CAN Dept - Mathematics)
- * compute derivatives - Compute derivatives numerically, graphically, and symbolically for explicitly defined functions. (Created By CAN Dept - Mathematics)
- * define/interpret derivatives - Interpret derivatives of functions from a numerical, graphical, and symbolic point of view. (Created By CAN Dept - Mathematics)

CAN MATH 252 - Calculus/Analytic Geometry II

Course Outcomes:

- * convergence of improper integrals - Analyze the convergence of improper integrals and evaluate them where possible. (Created By CAN Dept - Mathematics)
- * convergence of series - Analyze the convergence of series evaluate them where possible. (Created By CAN Dept - Mathematics)
- * integrals - Relate Integrals to anti-derivatives, limits of the Riemann sums, and areas under a curve. (Created By CAN Dept - Mathematics)
- * integration techniques - Use different techniques of integration to evaluate indefinite and definite integrals (Created By CAN Dept - Mathematics)

CAN MATH 253 - Calculus/Analytic Geometry III

Course Outcomes:

- * ftoc - Recognize and apply the fundamental theorem of calculus. (Created By CAN Dept - Mathematics)
- * integrals - Identify and compute the different types of integrals. (Created By CAN Dept - Mathematics)
- * partial derivatives - Compute derivatives of multivariable functions and apply to geometry and optimization problems.
(Created By CAN Dept - Mathematics)
- * vectors-valued functions - Model motion using vectors valued functions. (Created By CAN Dept - Mathematics)

CAN MATH 270 - Linear Algebra

Course Outcomes:

- * eigenvectors and eigenvalues - Correctly find the eigenvectors and eigenvalues of a matrix. (Created By CAN Dept - Mathematics)
- * systems via matrices - Correctly solve a system of equations using matrices and Gaussian elimination. (Created By CAN Dept - Mathematics)
- * vectors - Correctly use vectors to solve a problem. (Created By CAN Dept - Mathematics)

CAN MATH 275 - Ordinary Differential Equation

Course Outcomes:

- * Classify Differential Equations - Correctly classify differential equations by degree (first-order, second-order, ...), linear or nonlinear, ordinary or partial, homogeneous or driven. (Created By CAN Dept - Mathematics)
- * Develop Models - Correctly develop a differential equation to model a particular situation. (Created By CAN Dept - Mathematics)
- * Direction Fields - Correctly use a direction field to describe the behavior of the solution to a first-order differential equation given an initial condition. (Created By CAN Dept - Mathematics)
- * Initial value problems - Use standard methods (integrating factors, undetermined coefficients, variation of parameters, Laplace Transforms, numerical methods, power series) to find a solution to an initial-value problem. (Created By CAN Dept - Mathematics)
- * Solve Differential Equations - Correctly determine whether a solution to a differential equation exists and whether or not it is unique. (Created By CAN Dept - Mathematics)
- * Validate Solutions - Correctly determine whether a given function is a solution to a differential equation. (Created By CAN Dept - Mathematics)

CAN MATH 811 - Pre-Algebra

Course Outcomes:

- * fractions - Simplify numeric expressions involving fractions. (Created By CAN Dept - Mathematics)
- * operations - Simplify numeric expressions using mathematical operations using order of operations. (Created By CAN Dept - Mathematics)
- * percentages - Solve problems involving percentages. (Created By CAN Dept - Mathematics)
- * proportions - Set up and solve proportion problems. (Created By CAN Dept - Mathematics)
- * signed numbers - Perform mathematical operations using signed numbers. (Created By CAN Dept - Mathematics)
- * word problem - Translate verbal expressions into math and solve. (Created By CAN Dept - Mathematics)

CAN MATH 818 - Basic Mathematics for Health Science

Course Outcomes:

- * arithmetic - Perform basic mathematical operation on whole numbers, fractions, and decimals. (Created By CAN Dept - Mathematics)
- * percent - Set up and solve a proportions and percent problem. (Created By CAN Dept - Mathematics)
- * stats - Compute basic descriptive statistics: Mean, Standard Deviation, and Coefficient of Variation (Created By CAN Dept - Mathematics)
- * units - Perform unit conversions (Created By CAN Dept - Mathematics)