

MATH (MATH1-UC)

MATH1-UC 10 Introduction to Statistics (2 Credits)

Introduction to Statistics introduces students to the fundamentals of probability and sampling, descriptive statistics, and correlational analysis. This course also introduces students to using statistical software to perform basic data analysis. Students will work together on in-class experiments and games that reinforce core statistical concepts. Students will also learn how to select and use appropriate problem solving strategies to make valid statistical predictions. The culminating project for this course is an original research project.

Grading: UC SPS Graded

Repeatable for additional credit: No

MATH1-UC 1100 Math Strategies (0 Credits)

This course is required for students who need to refresh their mathematical knowledge before taking Math I, as determined by the Math Placement Test. Students briefly review multiplication and division, and study fractions, decimals, percentages, and operations on signed numbers. Basic algebraic concepts are introduced. This course may not be repeated more than once.

Grading: UC SPS Pass/Fail

Repeatable for additional credit: No

MATH1-UC 1101 Math I (2 Credits)

Typically offered Fall, Spring, and Summer terms

This is the first of a two-course sequence in elementary and intermediate algebra. Topics include signed numbers, linear equations, linear inequalities; absolute value equations and inequalities; laws of exponents; polynomials; factoring; rational algebraic expressions; and graphs of linear equations and inequalities. Students may seek exemption from the course through testing. Credit is not awarded if Mathematical Reasoning has been successfully completed.

Grading: UC SPS Graded

Repeatable for additional credit: No

MATH1-UC 1104 Comprehensive Algebra (4 Credits)

Typically offered occasionally

This course covers elementary and intermediate algebra. Topics include formulas, signed numbers, laws of exponents, polynomials, factoring, solution of first degree equations, and graph of linear equations. Solutions and graphing of linear equations and inequalities, fractional exponents, radical terms, complex numbers, quadratic equations, algebraic expressions, and nonlinear equations also studied.

Grading: UC SPS Graded

Repeatable for additional credit: No

MATH1-UC 1105 Mathematical Reasoning (4 Credits)

Typically offered occasionally

This college-level algebra course prepares students for precalculus with an emphasis on applications related to future academic and professional skills. Particular emphasis is placed on the application of algebraic techniques to a range of problems drawn from disciplines in the humanities, social sciences, general sciences, computer science, and business. The objective of the course is to develop proficiency with these quantitative techniques and explore the use of these techniques in problem solving. Covers the same quantitative skill sets as Math I and Math II.

Grading: UC SPS Graded

Repeatable for additional credit: No

MATH1-UC 1141 Math II (2 Credits)

Typically offered Fall, Spring, and Summer terms

This is the second in a two-course sequence in algebra. Topics include line equations, systems of two linear equations, rational exponents, radical expressions, radical equations, complex numbers and quadratic equations, graphs of quadratic functions, and quadratic inequalities. Students may seek exemption from the course through testing. Credit is not awarded if Mathematical Reasoning has been successfully completed.

Grading: UC SPS Graded

Repeatable for additional credit: No

MATH1-UC 1171 Precalculus (4 Credits)

Typically offered occasionally

The course uses the framework of functions (linear, polynomial, exponential, and trigonometric) to analyze and draw conclusions about real life situations involving quantitative concepts. Mathematical ideas are presented in multiple ways (through graphs, formulas, and verbal descriptions). Classes are interactive and participatory.

Grading: UC SPS Graded

Repeatable for additional credit: No

MATH1-UC 1172 Statistical Methods (4 Credits)

Typically offered occasionally

The course topics include an introduction to statistics terminology; methods of organizing data; measures of central tendency and measures of variation; elementary probability theory; normal distributions; areas under the standard normal distribution; sampling distributions; the Central Limit Theorem; estimation; hypothesis testing; and correlation and regression.

Grading: UC SPS Graded

Repeatable for additional credit: No

Prerequisites: Math II or Mathematical Reasoning.

MATH1-UC 1174 Calculus W/Applications to Business & Economics (4 Credits)

Typically offered occasionally

The course emphasizes the analysis of real-life situations using the tools of single-variable calculus (limits, derivatives, anti-derivatives, graphing, optimization). Classes are participatory and interactive, with lectures supplemented by in-class individual and group work. Students give oral presentations, both individually and in groups.

Grading: UC SPS Graded

Repeatable for additional credit: No

Prerequisites: MATH1-UC 1171.

MATH1-UC 1180 Linear algebra (4 Credits)

Typically offered occasionally

Linear algebra is, together with calculus, one of the most important fields of mathematics for computations and applications. For example, it is a major tool in data mining, the set of methods and processes to identify patterns in large sets of data. In many applications, the problem is formulated mathematically; it is then converted to a linear algebra problem; the linear algebra problem is solved, and the results are interpreted. In this course, students learn the theoretical concepts and some of the computational methods of linear algebra.

Grading: UC SPS Graded

Repeatable for additional credit: No

Prerequisites: MATH1-UC 1174.