

MATHEMATICS (MATH)

MATH 100 College Mathematics (5 Credits)

Mathematics gives order and structure to our everyday lives, guiding everything from personal finance and global supply chain management to building design, fitness tracking and more. In this course, students develop problem-solving and critical thinking skills as they explore the foundations of mathematical knowledge through topics such as number theory, algebra, geometry, consumer mathematics, probability and statistics. Students may not earn credit for both MATH 100 and MATH 101.

Attributes: Mathematics

MATH 101 Intermediate Mathematics (5 Credits)

Students study functions, graphs and modeling to prepare for advanced study in applied mathematics, including the application of equations to modeling physical phenomena and the advanced study of algebraic and trigonometric functions.

Attributes: Mathematics

MATH 104 Mathematics of Computer Science (5 Credits)

Primary underlying components to mathematics for computer science are logical formulas and theorems; the latter reveal unexpected outcomes of numbers, patterns and structures that can translate into advanced computer programs and are used at the cutting edge of art and design. This course is the mathematical foundation for computer design initiatives including virtual reality and interactive design.

Attributes: Mathematics

MATH 110 Introduction to Statistics and Probability (5 Credits)

In this course, students explore the fundamentals of statistics and probability to support quantitative understanding of a broad range of phenomena. Students learn to analyze numerical data and apply their findings in a variety of professional and personal settings.

Attributes: Business-focused elective; Mathematics

MATH 140 The Geometry of Physical Space (5 Credits)

Students explore, analyze and quantify the structure of 2D and 3D space and spatial relationships, including the geometry of everyday physical objects. In so doing, students learn how to solve geometry problems that emphasize proofs, Euclidean constructions, right-triangle theorems, properties of geometric figures, tessellations in the plane, theorems of circles and the Golden Ratio.

Attributes: Mathematics

MATH 180 Applied Statistics and Probability (5 Credits)

Working knowledge of statistics and probability is critical for success in any creative career in which decisions must be made based upon real-world data. In this course, students explore methods from these fields, including linear and nonlinear regression models, analysis of variance, and analytic methods from Bayesian and nonparametric statistics. Students apply these methods to understand data drawn from a variety of sources.

Prerequisite(s): MATH 110.

Attributes: Mathematics

MATH 201 Applied Mathematics (5 Credits)

Students study, analyze and solve technical problems in structural design, using trigonometry, differential and integral calculus and the application of vectors.

Prerequisite(s): MATH 101; minimum score of 580 in 'SAT 2016 Math Section Score'; minimum score of 560 in 'SAT Math Highest'; minimum score of 560 in 'SAT Math' or minimum score of 24 in 'ACT Math'.

Attributes: Mathematics

MATH 204 Algorithm Design and Analysis (5 Credits)

This course introduces fundamental techniques for designing and analyzing algorithms while providing ample examples and opportunities to practice mastery of these skills. Students engage in computer projects that are fundamental to developing and testing the design of algorithms.

Attributes: Mathematics

MATH 240 Logic (5 Credits)

This course introduces formal logic and its application to everyday arguments. Using examples from computer algorithms and paradoxes, students learn to identify, classify and write complex logical sentences accurately and efficiently. A foundation in logic aids in critical thinking and builds skills useful not only in computer science, but in fields such as game design, writing, sequential art and business.

Attributes: Mathematics

MATH 280 Predictive Modeling and Analytics (5 Credits)

This course challenging students to apply probability and statistics to real-world settings. Investigating actual case studies from user experience design, students apply techniques from probability and both parametric and nonparametric statistics and produce eye-catching and informative data visualizations as they become expert in communicating their discoveries to a variety of audiences.

Prerequisite(s): MATH 180.