Mathematics (Math)

110 Fundamentals of College Mathematics 4 credit hours

This course is designed to be the terminal math course for non-science and non-business majors. Topics covered will include: review of basic math, set theory, logic, series, exponents, systems of equations, interest, geometry, graphing, probability and statistics, and applications. (Fall and Spring)

112 Intermediate Algebra 4 credit hours

This course is designed to prepare the student for college algebra. It is a comprehensive course starting with pre-algebra material and extending through a second-year algebra course. Topics covered with include: general math, order of operations, graphing, real numbers, exponents, polynomials, rational numbers, complex numbers, absolute value, equations, inequalities, quadratics, and variation and proportion. Prereq: Successful completion of Algebra II in high school. (Fall and Spring)

113 College Algebra 4 credit hours

Topics include Equations and Inequalities, Functions and Graphs, Polynomial and Rational Functions, Exponential and Logarithmic Functions. Prereq: Successful completion of Pre-Calculus in high school. (Fall and Spring)

114 Trigonometry 3 credit hours

Topics include properties of trigonometric functions, trigonometric identities, applications to analytical geometry, vectors, polar coordinates, and complex numbers. Intended to prepare students for courses in calculus and physics. Prereq: Math 113 or permission of instructor. (Spring)

125 Differential Calculus 4 credit hours

Topics covered will include: limits, continuity, differentiation,

applications of derivatives, curve sketching, antidifferentiation, and applications of the definite integral. Prereq: Successful Completion of Calculus or Trigonometry in high school or Math 114. (Fall)

126 Integral Calculus 4 credit hours

Topics covered will include: methods of integration, series, conic sections, polar coordinates, and applications to many fields. Prereq: Math 125. (Spring)

225 Multivariable Calculus 4 credit hours

Topics covered will include: vectors, graphing in space, surfaces, areas, volumes, cylindrical and spherical coordinates, functions of more than one variable, partial derivatives, multiple integration, Green's Theorem, Stoke's Theorem, and Gauss's Divergence Theorem. Prereq: Math 126. (Fall)

226 Differential Equations 4 credit hours

Topics covered will include: first order equations, second order equations, linear equations of arbitrary order, series solutions, the Laplace Transform, systems of linear equations, numerical methods, and Fourier Series. Prereq: Math 225. (Spring, as needed)

227 Linear Algebra 3 credit hours

Systems of linear equations, matrices and matrix operations, determinants, vectors in the plane and space, linear combinations, linear independence, dot and cross products, groups, rings, fields and vector spaces, basis and dimension, orthonormal bases, linear transformations, eigenvalues and eigenvectors, and appropriate applications. Prereq: ACT score of 24 in Mathematics or completion of Math 114 with a grade of "C" or better. (Spring)

250 Introduction to Probability and Statistical Inference
4 credit hours

Probability in the social and nature sciences. Topics such as permutations, combinations, discrete sample spaces, mutually

exclusive and independent events, conditional probability, random drawings, binomial distribution, Bayes' Theorem, central limit theorem, continuous probability distributions, sampling, estimation, hypothesis testing, linear regression and correlation analysis. Prereq: Math 110, 112, 113, 114 or 125. (Fall, as needed)

315 Topics in Algebra and Discrete Mathematics 3 credit hours

This course is designed to survey topics in discrete mathematics, linear algebra, and abstract algebra. The following topics will be addressed: matrix algebra (Gauss reduction process, inverses, determinants), simple linear programming, symbolic logic, set theory, combinations, numbers to other bases, and number theory. Prereq: Math 113, 125, 126. (Spring even years)

330 Foundations of Geometry 3 credit hours

Axiomatic development of Euclidean geometry. Prereq: Math 113 or ACT Math score of 24. (Spring)

460-469 Special Topics in Mathematics 1-4 credit hours

Elective courses may be offered as special topics in Mathematics on an occasional basis depending on the availability and interests of students and faculty. Prereq: Junior standing and permission of instructor. (As needed)