Course Offerings in Mathematics

MTH 098 – Elementary Algebra
This course provides a study of the fundamentals of algebra. Topics include the real number system, linear equations and inequalities, graphing linear equations and inequalities in two variables and systems of equations. This course does not apply toward the general core requirement for mathematics.

MTH 099 – Support for Intermediate College Algebra
COREQUISITE: MTH 100 Intermediate College Algebra.
This Learning Support course provides co-requisite support in mathematics for students enrolled in MTH 100 Intermediate College Algebra. Topics will parallel topics being studied in MTH 100 such as laws of exponents, polynomial operations, factoring polynomials, radical and rational expressions and equations, and quadratic equations, functions and relations. This course will enhance the essential quantitative skills needed to be successful in MTH 100. This course does not apply toward the general core requirements for mathematics.

MTH 100 – Intermediate College Algebra
PREREQUISITE: A grade of "C" or higher in MTH 098 or appropriate mathematics placement score is required.
COREQUISITE: MTH 099 with appropriate placement criteria for students not meeting MTH 100 prerequisites.
This course provides a study of algebraic concepts such as laws of exponents, polynomial operations, factoring polynomials, radical and rational expressions and equations, and quadratic equations. Functions and relations are introduced and graphed. This course does not apply toward the general core requirement for mathematics.

MTH 110 – Finite Mathematics
PREREQUISITE: Grade of C or higher in MTH 098 Elementary Algebra or appropriate mathematics placement score.
COREQUISITE: MTH 109 Support for Finite Mathematics OR other mandatory support, if required. (Note that MTH 109 or other mandatory support is required for students completing MTH 098 Elementary Algebra.)
This course provides an overview of topics in finite mathematics together with their applications and is intended for students who are not majoring in science, engineering, commerce, or mathematics (i.e., students who are not required to take calculus). The course introduces logic, set theory, counting techniques, basic probability, statistics, and personal finance.

MTH 112 – Precalculus Algebra
PREREQUISITE: Successful completion of MTH 100 Intermediate College Algebra with a grade of C or higher or appropriate placement.
COREQUISITE: MTH 111 Support for Precalculus Algebra, if required.
This course emphasizes the algebra of functions – including polynomial, rational, exponential, and logarithmic functions. In addition, the course covers non-linear inequalities as well as systems of linear and non-linear equations and inequalities.

MTH 113 – Precalculus Trigonometry
PREREQUISITE: Grade of C or higher in MTH 112 or appropriate placement scores
This course includes the study of trigonometric (circular) functions and inverse trigonometric functions as well as extensive work with trigonometric identities, equations, and formulas. The course also covers vectors, complex numbers, DeMoivre's Theorem, and polar graphs. Additional topics may include conic sections and product-sum formulas.

MTH 115 – Precalculus Algebra & Trigonmetry
PREREQUISITE: As determined by college but may be no less than a C or higher in MTH 100 and permission from the department chairperson.
This course is a one-semester accelerated combination of Precalculus Algebra (MTH 112) and Precalculus Trigonometry (MTH 113). This course is intended for students with a strong background in college preparatory mathematics. The course includes the algebra of functions (including polynomial, rational, exponential, and logarithmic functions) as well as the study of trigonometric functions and inverse trigonometric functions. This course also includes extensive work with trigonometric identities, equations, and formulas; vectors; complex numbers; and polar graphs.

MTH 116 – Mathematical Applications
This course provides practical applications of mathematics and includes selected topics from consumer math, algebra, and geometry. The course covers integers, percent, interest, ratio and proportion, measurement systems, linear equations, and problem solving.

MTH 125 – Calculus I
PREREQUISITE: Grade of C or higher in MTH 113 or 115 or appropriate placement score.
This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering, and mathematics. Topics include the limit of a function; the derivative of algebraic, trigonometric, exponential, and logarithmic functions; and the definite integral and its basic applications to area problems. Applications of the derivative are covered in detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using calculus.

MTH 126 – Calculus II
PREREQUISITE: Grade of C or higher in MTH 125.
This is the second of three courses in the basic calculus sequence. Topics include applications of integration, techniques of integration, infinite series, polar coordinates, and parametric equations, lines and planes in space, and vectors in the plane and in space.

MTH 227 – Calculus III
PREREQUISITE: Grade of C or higher in MTH 126.
This is the third of three courses in the basic calculus sequence. Topics include vector functions, functions of two or more variables, partial derivatives (including applications), quadric surfaces, multiple integration, and vector calculus (including Green's Theorem, curl and divergence, surface integrals, and Stokes' Theorem).

MTH 231 – Math for the Elementary Teacher I
PREREQUISITE: Grade of C or higher in MTH 100 or appropriate placement score.
This course is designed to develop a deeper understanding of elementary school mathematics content needed for teaching. The course is designed to develop conceptual understanding of number systems and operations by focusing on basic concepts and principles, exploring multiple representations and strategies, and illuminating connections among concepts and procedures. Topics include whole numbers and integers, fractions, ratio, percent, decimals, and arithmetic operations within these systems.

MTH 232 – Math for the Elementary Teacher II
PREREQUISITE: Grade of C or higher in MTH 100 or appropriate placement score.
This course is designed to provide mathematical insights into measurement and geometry for students majoring in elementary education. Topics include geometric shapes (two- and three-dimensional), measurement, congruence and similarity, symmetry, and transformations.

MTH 237 – Linear Algebra
PREREQUISITE: Grade of C or higher in MTH 126.
This course introduces the basic theory and application of the following topics: systems of linear equations and matrices, (finite-dimensional) vector spaces, linear transformations and matrices, determinants, eigenvalues and eigenvectors, inner product and orthogonality, Gram-Schmidt, least squares, and the diagonalization of symmetric matrices.

MTH 238 – Applied Differential Equations I
COREQUISITE: MTH 227.
This course is an introduction to techniques for solving differential equations with applications. Topics include solving first order differential equations, applications to various models (e.g. populations, motion, chemical mixtures, etc.), solving higher order linear differential equations with constant coefficients (general theory, undetermined coefficients, reduction of order and the method of variation of parameters, and Laplace transform). Series solutions and solutions to systems are also covered.

MTH 265 – Elementary Statistics
PREREQUISITE: Grade of C or higher in MTH 100 or appropriate placement score.
This course provides an introduction to methods of statistics and includes the following topics: sampling, frequency distributions, measures of central tendency and variation, probability, discrete and continuous distributions, graphic representation, hypothesis testing, confidence intervals, regression, and applications.