

MATHEMATICS

MAT 1033 – Technical Mathematics—A course intended for students enrolled in career technical education programs. It includes a review of basic mathematics and topics from algebra, geometry, statistics, and trigonometry with an emphasis on real-world applications and measurement. Topics covered should relate to the student's program area. This course will satisfy the mathematics requirement for the Certified of Proficiency or Associate of Applied Science. 3 semester credit hours. Pre-requisite: None Note: MAT 1033 does not replace the MAT 1313 pre-requisition

MAT 1234 – Intermediate Algebra – Prerequisite: ACT math score of 16 or below. The topics include linear equations and their graphs; inequalities and number line graphs; rational expressions; factoring; laws of exponents; radicals; polynomials. Four semester hours (institutional) credit.

MAT 1313 – College Algebra – Prerequisite: MAT 1234, grade of C or better, or ACT math score of 19 or above. This course includes inequalities; functions; linear and quadratic equations, circles, and their graphs; rational, radical, and higher-order equations; applications; polynomial and rational functions; logarithmic and exponential functions; systems of equations. Three semester hours credit.

MAT 1314 – College Algebra w/Lab – Prerequisite: ACT math score of 17-18. This course includes inequalities; functions; linear and quadratic equations, circles, and their graphs; rational, radical, and higher-order equations; applications; polynomial and rational functions; logarithmic and exponential functions; systems of equations. Additional academic support is provided with an emphasis on remedial topics for developing an in-depth understanding of course concepts. Four semester hours credit.

MAT 1323 – Trigonometry – Prerequisite: grade of C or better in MAT 1313 or equivalent or ACT score of 21 or above. This course includes trigonometric functions and their graphs; trigonometric identities; trigonometric equations; radian measurement; solutions of right and oblique triangles; inverse trigonometric functions; applications. Three semester hours credit.

MAT 1513 – Business Calculus I – Prerequisite: MAT 1313, grade of C or better. A study of functions, limits, continuity, derivatives, and their applications to business and economics. Three semester hours credit.

MAT 1613 – Calculus I – Prerequisite: grade of C or better in MAT 1323. This course includes the following topics: limits; continuity; the definition of the derivative; differentiation; applications; anti-derivatives. Three semester hours credit.

MAT 1623 – Calculus II - Prerequisite: MAT 1613, grade of C or better. This course includes the following topics: the definite integral; differentiation and integration of transcendental functions, techniques of integration; applications. Three semester hours credit.

MAT 1723 – Real Number System – Prerequisite: MAT 1313, grade of C or better. Designed for elementary and special education majors, this course includes set theory, numeration systems, foundations of number theory, and properties and operations of real numbers. Three semester hours credit.

MAT 1733- Geometry, Measurement and Probability - Prerequisite: MAT 1723, grade C or better. Designed for elementary and special education majors, this course includes geometric definitions, shapes, and formulas; linear and angular measurements; unit conversions, statistics and probability. Three semester hours credit.

MAT 1753 - Quantitative Reasoning – Designed for students who need only three hours of unspecified mathematics. Includes basic mathematical concepts from logic, algebra, set theory, probability, descriptive statistics, and finance. Three semester hours credit.

MAT 2113 – Introduction to Linear Algebra – Prerequisite: MAT 1623. This course includes the following topics: systems of linear equations; matrices; determinants; vector spaces; orthogonality; linear transformations; applications; eigenvalues and eigenvectors. Three semester hours credit.

MAT 2323 – Statistics – Prerequisite: MAT 1313, grade of C or better. Introduction to statistical methods of describing, summarizing, comparing, and interpreting data to include probability distributions, sampling, estimation, confidence intervals and hypothesis testing. Three semester hours credit.

MAT 2613 – Calculus III – Prerequisite: MAT 1623, grade of C or better. This course includes the following topics: analytical geometry; parametric equations; polar coordinates; improper integrals; infinite series; vectors and geometry of space. Three semester hours credit.

MAT 2623 – Calculus IV – Prerequisite: MAT 2613, grade of C or better. This course includes the following topics: partial differentiation; optimization; multiple integration; vector calculus; quadric surfaces and line integrals; divergence theorem; Stokes' theorem. Three semester hours credit.

MAT 2913 – Differential Equations – Prerequisite: MAT 2613, grade of C or better; Pre/Co-requisite MAT 2623. This course includes the following topics: solution of first and higher order differential equations, existence theorems, Laplace transforms; applications. Three semester hours credit.