MATHEMATICS (MATH)

MATH 119 INTRO TO COLLEGE ALGEBRA **3 Credit Hours**
A study of the algebraic concepts necessary to be successful in College Algebra. (3 lecture)

MATH 120 QUANTITATIVE LITERACY **3 Credit Hours**
A mathematics survey course. Topics will include logic, problem solving, quantitative information in everyday life, probability, statistics and mathematical modeling. (3 lecture)
Prerequisite(s): ACT Math with a score of 19 or SAT Math Score with a score of 510 or SAT Mathematics with a score of 510 or AMTH - Math Placement with a score of 261 or WV Summative Assessment Math with a score of 3 or MATH 101 or MATH 021
Pre/Corequisite(s): MATH 120E

MATH 120E QUANTITATIVE LITERACY ENHANCED **0 Credit Hours**
This co-requisite course is designed to establish the necessary background knowledge to be successful in Quantitative Literacy. (2 lab)
Corequisite(s): MATH 120

MATH 121 ~INTRO TO MATHEMATICS **3 Credit Hours**
A survey of mathematical topics including Euclidean geometry set theory, number theory, numeration, techniques of problem solving, probability and statistics and the history of mathematics. (3 lecture)

MATH 125 TECHNICAL MATHEMATICS **4 Credit Hours**
Provides a basic understanding of the algebraic and trigonometric concepts that are necessary to successfully advance in technical fields. Applications covered: fractions and decimals; percentages; area and volume; accuracy and error measurement; pictorial representations of data; metric units of time, temperature and current; linear equations; and trigonometry of triangles. (4 lecture)

MATH 125E TECHNICAL MATH ENHANCED **0 Credit Hours**
Topics include real numbers, basic algebraic operations, solving linear equations and inequalities, graphing linear equations. Includes applications and activities to build skills in problem solving. (2 lab)
Corequisite(s): MATH 125

MATH 126 ~COLLEGE ALGEBRA **3 Credit Hours**
Quadratic equations; quadratic type equations; radical equations; rational equations; linear, nonlinear and absolute value inequalities; function concepts; graphing; linear functions and applications; polynomial functions; rational functions; exponential and logarithmic functions; systems of equations using Gaussian elimination; matrix theory and determinants. (4 lecture)
Prerequisite(s): ACT Math with a score of 23 or SAT Math Score with a score of 560 or SAT Mathematics with a score of 560 or WV Summative Assessment Math with a score of 3 or AMTH - Math Placement with a score of 270 or MATH 022 or MATH 100 or MATH 102 or MATH 114 or MATH 119

MATH 128 ~COLLEGE TRIGONOMETRY **3 Credit Hours**
Degree and radian measure, right and oblique triangles, vector applications, graphing, inverse trigonometric functions, identities and conditional trigonometric equations and applications. (3 lecture)
Prerequisite(s): MATH 100 or MATH 102 or MATH 126 or AMTH - Math Placement with a score of 261 or ACT Math with a score of 22 or SAT Math Score with a score of 540 or SAT Mathematics with a score of 540

MATH 141 ~FINITE MATH **3 Credit Hours**
Logic, sets, counting principles, vectors, matrices, probability theory, linear programming, applications. (3 lecture)
Prerequisite(s): MATH 126

MATH 150 INTRODUCTION TO CALCULUS **3 Credit Hours**
For students in other disciplines needing calculus for applications. Limits of sequences and functions, continuity, derivatives, and integrals of polynomials, rational functions, and exponential and logarithmic functions, partial derivatives, maxima and minima. (3 lecture)
Prerequisite(s): MATH 126 or ACT Math with a score of 25 or SAT Math Score with a score of 600 or SAT Mathematics with a score of 600 or AMTH - Math Placement with a score of 270

MATH 155 ~CALCULUS 1 **4 Credit Hours**
Limits, continuity, derivatives and applications, properties of the definite integral, and applications. (4 lecture)
Prerequisite(s): (MATH 126 and MATH 128) or ACT Math with a score of 27 or SAT Math Score with a score of 640 or SAT Mathematics with a score of 640

MATH 156 ~CALCULUS 2 **4 Credit Hours**
Continuation of Math 155. Derivative and integrals of logarithmic, exponential, and trigonometric functions, techniques of integration; polar coordinates; series. (4 lecture)
Prerequisite(s): MATH 151 or MATH 155

MATH 211 ~STATISTICS **3 Credit Hours**
Descriptive and inferential statistics, descriptive measures, probability, random variables, discrete and continuous probability distributions, expected value, Central Limit Theorem, confidence intervals, tests of hypothesis, chi-square test, regression and correlation. (3 lecture)

MATH 230 INTRO TO EUCLIDEAN GEOMETRY **3 Credit Hours**
Fundamental concepts of plane & solid Euclidean Geometry including points, lines, space, construction proofs, transformation, area formulas, volume formulas, polygons, circles, coordinate geometry and triangle ratios.
Prerequisite(s): MATH 115 or MATH 126

MATH 251 CALCULUS 3 **4 Credit Hours**
Vector products; linear transformations; matrices and determinants; vector differential calculus; line and surface integrals; double and triple integrals; Green's Theorem; Stokes' Theorem; Fourier Series and Integrals. (4 lecture)
Prerequisite(s): MATH 152 or MATH 156

MATH 261 CALCULUS 4 **4 Credit Hours**
Ordinary differential equations; Laplace transforms; partial differential equations with emphasis on engineering and scientific applications. (4 lecture)
Prerequisite(s): MATH 251

MATH 297 SPECIAL TOPICS **4 Credit Hours**
(4 lecture)

MATH 297L MATH LAB **1 Credit Hour**
(1 lab)

MATH 299 INDEPENDENT STUDY **1-4 Credit Hours**

MATH 303 DIAGNOSTIC & PRESCRIPTIVE MATH **2 Credit Hours**
Methods and content with respect to primary grade mathematics. Focus will be on error analysis and guidance for assessment and preventive teaching. (2 lecture)
Prerequisite(s): MATH 301 and EDUC 320

MATH 315 INTRO TO MODERN ALGEBRA **3 Credit Hours**
An introduction to abstract algebra and modern mathematical thinking. Topics include: group properties, sub-groups, Lagrange's Theorem, cosets, permutations, normal sub-groups, homomorphisms, and rings. (3 lecture)
Prerequisite(s): (MATH 115 or MATH 126) and MATH 121

MATH 318 DISCRETE MATHEMATICS **3 Credit Hours**
Topics include logic and set theory, functions, algorithms, recursion, combinatorics and graphs. (3 lecture)
Prerequisite(s): AMTH - Math Placement with a score of 084 or ARIT - Arithmetic Placement with a score of 90 or ACT Math with a score of 23 or SAT Math Score with a score of 560 or SAT Mathematics with a score of 560 or MATH 125 or MATH 126 or MATH 112