Math (MATH)

MATH 050 S,F,W,Sp 1 credit
REVIEW MATH-WHOLE NUMBER
Provides a review of addition, subtraction, multiplication, and division of whole numbers. (Formerly known as INDV 050)
Prerequisite: None

MATH 074 1 credit
MATH ORIENTATION
Emphasizes the attributes of a successful math student by providing strategies for overcoming math and test-taking anxiety as well as note-taking, problem solving, and time management. Refresher of fundamental math operations and training on technology used in the classroom included. Topics reviewed may include fractions, decimals, signed numbers, ratio, percent, proportion, order of operations, and vocabulary.
Prerequisite: None

MATH 078 S,F,W,Sp 3 credits
PRE-COLLEGE MATH I
Covers operations on and applications of integers, fractions, and decimals. Also provides a brief introduction to equation solving. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01-03. Credit cannot be earned for both MATH 078 and TECH 078.
Prerequisites: Placement exam or instructor permission.

MATH 079 S,F,W,Sp 2 credits
PRE-COLLEGE MATH I
Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04 - 05. Credit cannot be earned for both MATH 079 and TECH 079.
Prerequisite; MATH 078 with a C or better, placement exam, or instructor permission.

MATH 087 S,F,W,Sp 3 credits
ESSENTIALS OF PRE-COLLEGE MATH II
Provides an introduction to algebraic concepts such as algebraic expressions, linear equations, and linear functions with an emphasis on contextual learning. This is the first 3 credits of a 6 credit course designed for students who are not planning on taking a course in calculus.
Prerequisites: C or better in MATH 079, Placement Exam, or Instructor Permission

MATH 088 S,F,W,Sp 3 credits
PRE-COLLEGE MATH II
Covers solving linear equations and inequalities and an introduction to graphing. Techniques and strategies for problem solving are emphasized. This is the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 06-08.
Prerequisite: MATH 079 or TECH 079 with a grade of C or better, placement exam, or instructor permission.

MATH 089 S,F,W,Sp 2 credits
PRE-COLLEGE MATH II
Covers solving systems of linear equations and operations on polynomials. This is the continuation of the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 09-10. Credit cannot be earned for both MATH 089 and TECH 089.
Prerequisites: C or better in MATH 087 or MATH 088 or TECH 088, placement exam, or instructor permission.

MATH 097 S,F,W,Sp 3 credits
ESSENTIALS OF PRE-COLLEGE MATH III
Provides further exploration of algebraic concepts such as linear equations, exponential functions, and an introduction to statistical concepts with an emphasis on contextual learning. This is the last 3 credits of a 6 credit course designed for students who are not planning on taking a course in calculus.
Prerequisites: C or better in MATH 087 or MATH 089

MATH 098 S,F,W,Sp 3 credits
PRE-COLLEGE MATH III
Covers factoring polynomials and operations on rational expressions. Also provides an introduction to functions, logarithms, and exponentials. This is the third in a three quarter pre-college mathematics sequence which contains pre-college math modules 11-13. Credit cannot be earned for both MATH 098 and TECH 098.
Prerequisites: C or better in MATH 089 or TECH 089 or MATH 097, placement exam, or instructor permission.

MATH 099 S,F,W,Sp 2 credits
PRE-COLLEGE MATH III
Covers operations on radical expressions as well as solving and graphing quadratic equations. This is the continuation of the third in a three course pre-college mathematics sequence which contians pre-college math modules 14-15. Credit cannot be earned for both MATH 099 and TECH 099.
Prerequisites: C or better in MATH 098 or TECH 098, placement exam, or instructor permission.

MATH 105 W,Sp 5 credits
MATH FOR HEALTH SCIENCES RE
Includes a review of the basic arithmetic skills, including whole numbers and decimal numbers; fractions and percentages; powers of 10 and logarithms; introduction to basic algebraic concepts, including fractional equations and formulas; metric, apothecaries and household systems of measurement and calculations needed to determine dosages.
Prerequisite: MATH 078/079 or TECH 079 with a grade of C or better.

MATH 106 S,F,W,Sp 5 credits
INDUSTRIAL MATHEMATICS RE
Emphasizes basic skills in applied mathematics designed to support students entering the vocational/ technical work force of tomorrow. The focus is real world problem solving that students carry to their specific careers. Although the use of math in the workplace is primary, emphasis is given to the critical and creative thinking process as students look to strengthen their use of arithmetic concepts, measurements, practical geometry, basic algebra and right angle trigonometry.
Prerequisite: MATH 079 or TECH 079 with a C or better or instructor permission.

MATH&107 S,F,W,Sp 5 credits
MATH IN SOCIETY NS,Q
Functions as a terminal course in mathematics for students whose major does not require further mathematics. The core topics of this course are logic, probability and statistics. Additional topics will be selected by the instructor. These topics could include geometry, number systems, linear programming, set theory, number theory, functions, graph theory, topology, etc.
Prerequisites: MATH 098/099 or TECH 098/099 or MATH 087/097 with a grade of C or higher.

MATH 125 F,W 5 credits
APPLIED COLLEGE ALGEBRA NS,Q
Covers equations and inequalities; systems of equations and inequalities; graphing linear, quadratic, polynomial, rational, exponential, and logarithmic functions; matric operations; linear programming and simplex method; and mathematics of finance. The student may also be introduced to Markov processes and game theory. Students may meet
prerequisite by demonstrating ability through testing, prior experience, or prior course work not at LCC. Some colleges require this course for business majors. The course will fulfill the quantitative skills or the requirements of the AA-DTA natural science distribution list. Prerequisites: MATH 099 with a C or better.

MATH&131 F 5 credits
MATH FOR ELEMENTARY EDUCATORS 1 NS,Q
Strengthens students understanding of problem solving, operations on whole numbers, decimals and fractions, and number theory. This is the first class in a two-part series.
Prerequisites: MATH 098/TECH 098 or MATH 099/ TECH 099 or MATH 087/097 with a grade of C or better.

MATH&132 W 5 credits
MATH FOR ELEMENTARY EDUCATORS 2 NS,Q
Strengthens students understanding of the real number system, probabi lity and statistics, geometry, measurement, functions and graphs. This is the second class in a two-part series.
Prerequisites: MATH& 131 (was MATH 121) with a grade of C or better. (MATH& 107 (was MATH 130) is recommended).

MATH&141 S,F,W,Sp 5 credits
PRECALCULUS I NS,Q
Reviews basic algebraic operations, equations, inequalities, and operations on functions. Analyzes and graphs polynomial, rational, exponential, and logarithmic functions. This is the first course in a two course sequence leading to calculus.
Prerequisites: Placement score or MATH 098 and 099 (or TECH 098 and 099) with a C or better

MATH&142 S,F,W,Sp 5 credits
PRECALCULUS II NS,Q
Covers concepts, properties and algebra of trigonometric functions, including their graphs, inverses, law of sines and cosines, identities, and equations. Introduces parametric and polar coordinates and vector operations. This is the second course in a two course sequence leading to calculus.
Prerequisites: Placement score or MATH& 141 with a C or better.

MATH&148 W,Sp 5 credits
BUSINESS CALCULUS NS,Q
Introduces calculus concepts needed by students of management, social science or biology, or can serve as a survey course for liberal arts majors. Course covers sets, systems of numbers, relations and functions, limits, differentiation and integration, including the definite integral, exponential and logarithmic functions and applications from various fields. (Formerly known as MATH 140)
Prerequisite: MATH 125 OR MATH& 141 with a grade of C or better.

MATH&151 F,W 5 credits
CALCULUS I NS,Q
Investigates the ideas of continuity and limit, introduces the derivative as a limit, practices techniques for computing derivatives of functions, discusses the mean value theorem and its significance, utilizes these concepts to solve problems involving related rates and extreme values. This is the first of four quarters of standard Calculus sequence for STEM majors.
Prerequisites: MATH& 142 with a grade of C or better.

MATH&152 W,Sp 5 credits
CALCULUS II NS,Q
Introduces techniques of antidifferentiation of functions including trigonometric, logarithmic, exponential, and hyperbolic functions. Applies the concept of the definite integral to solve problems involving force, work, volume, surface area, business and economics. (Formerly known as MATH 152)
Prerequisite: MATH& 151 with a grade of C or better.

MATH&153 S,Sp 5 credits
CALCULUS III NS,Q
Focuses on infinite series, vector calculus and their applications. Incorporates the use of polar, cylindrical and spherical coordinate systems in apoplications of the calculus. (Formerly known as MATH 153)
Prerequisite: MATH& 152 with a grade of C or better.

MATH 210 S,F,W,Sp 5 credits
ELEMENTS OF STATISTICS NS,Q
Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 (was BSAD 206) and MATH 210.
Prerequisites: MATH 098/099, TECH 098/099, or MATH 087/097 with a grade of C or better.

MATH 211 3 credits
STATISTICAL PROJECTS NS,Q
Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 (was BSAD 206) by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This may be offered as a Capstone course. See Capstone
prerequisites. Prerequisite: MATH 210 or BUS 206 (was BSAD 206) with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206 (was BSAD 206).

MATH 215 W 5 credits
DISCRETE STRUCTURES NS,Q
Acquaints students with mathematical concepts used in computer science. Topics may include logic, induction, combinatorics, recursion, analysis of algorithms and graph theory.
Prerequisite: MATH& 142 with a grade of C or better.

MATH 220 Sp 5 credits
LINEAR ALGEBRA NS,Q
Presents the theory and properties of matrices, determinants and linear transformations. Introduces vector space and the Gram-Schmidt orthonormalization process. Deals with the calculation and application of eigenvalues and eigenvectors.
Prerequisite: MATH& 152 with a grade of C or better or instructor permission.

MATH 240 W 5 credits
DIFFERENTIAL EQUATIONS NS,Q
Introduces techniques of solving ordinary differential equations including the elementary methods used for first order differential equations, method of undetermined coefficients and variation of parameters for higher order equations. Includes techniques of solving systems of differential equations, the method of La Place transforms and series solutions to differential equations.
Prerequisite: MATH& 254 (was MATH 154) with a grade of C or better.

MATH&254 F 5 credits
CALCULUS IV NS,Q
Continuation of Calculus III. Topics include partial derivitatives, multiple integrals, and vector calculus.
Prerequisites: MATH& 153 with a grade of C or better.