

MATH - MATHEMATICS

MATH 0076 Algebra Intensive(NCBO) paired 0 Credit Hours (3 Lec, 0 Lab)

MATH 0114 College Algebra NCBO 1 Credit Hour (1 Lec)

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. This is a non-course competency based option (NCBO), that is paired as a corequisite with College Algebra-Math1314. Students concurrently enroll in both classes and are provided with just-in-time remediation for the college-level material. This class is an intervention for students that failed Math 0314, or for students that were close to scoring college ready on the TSIA2. Paired classes are designated with sections such as MP, SP, and EP.

Corequisite: MATH 1314

MATH 0124 Mathematics for Business and Social Sciences NCBO 1 Credit Hour (1 Lec)

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. This is a non-course competency based option (NCBO), that is paired as a corequisite with Mathematics for Business and Social Sciences-Math 1324. Students concurrently enroll in both classes and are provided with just-in-time remediation for the college-level material. This class is an intervention for students that failed Math 0324, or for students that were close to scoring college ready on the TSIA2. Paired classes are designated with sections such as MP, SP, and EP.

Corequisite: MATH 1324

MATH 0132 Contemporary Mathematics NCBO 1 Credit Hour (1 Lec)

The NCBO supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. This is a non-course competency based option (NCBO), that is paired as a corequisite with college level Contemporary Mathematics-MATH 1332. Students concurrently enroll in both classes and are provided with just-in-time remediation for the college-level material. This class is an intervention for students that failed MATH 0332, or for students that were close to scoring college ready on the TSIA2. Paired classes are designated with sections such as MP, SP, and EP.

Corequisite: MATH 1332

MATH 0142 Elementary Statistical Methods NCBO 1 Credit Hour (1 Lec)

The NCBO supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. This is a non-course competency based option (NCBO), that is paired as a corequisite with college level Elementary Statistical Methods-Math 1342. Students concurrently enroll in both classes and are provided with just-in-time remediation for the college-level material. This class is an intervention for students that failed Math 0342, or for students that were close to scoring college ready on the TSIA2. Paired classes are designated with sections such as MP, SP, and EP.

MATH 0173 Developmental Mathematics Base NCBO 1 Credit Hour (1 Lec)

Topics in mathematics such as arithmetic operations, basic algebraic concepts and notation, geometry, and real and complex number systems.

MATH 0301 Self Paced Developmental Mathematics 3 Credit Hours (3 Lec, 0 Lab)

The NCBO supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. HOW THE COURSE WORKS: In this class students work at their own pace using adaptive learning. Students will work on individualized learning paths based on the competencies they have mastered. Because of the adaptive nature of this class, instructors will help students one to one or lecture to groups of students trying to master the same topics. Students may finish all class requirements before the semester ends. Prerequisite: Appropriate placement test score or department approval. CB Number: 32.0104.53 19.

MATH 0304 Self Paced Intermediate Algebra 3 Credit Hours (3 Lec, 0 Lab)

A study of relations and functions, inequalities, factoring, polynomials, rational expressions, and quadratics with an introduction to complex numbers, exponential and logarithmic functions, determinants and matrices, and sequences and series.

MATH 0314 College Algebra Co Requisite 3 Credit Hours (3 Lec)

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. Prerequisite: Appropriate placement test score or department approval. Corequisite: MATH 1314

MATH 0324 Mathematics for Business and Social Sciences Co-Requisite 3 Credit Hours (3 Lec)

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. Prerequisite: Appropriate placement test score or department approval. Corequisite: MATH 1324

MATH 0332 Contemporary Mathematics Co Requisite 3 Credit Hours (3 Lec)

Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Prerequisite: Appropriate placement test score or department approval. Corequisite: MATH 1332

MATH 0342 Elementary Statistical Methods Co Requisite 3 Credit Hours (3 Lec)

Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Prerequisite: Appropriate placement test score or department approval

MATH 0345 Developmental Mathematics NAI 3 Credit Hours (3 Lec)

The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Corequisite: MATH 0372

MATH 0372 Dev Math Base NCBO Non-Algebra 3 Credit Hours (3 Lec)

Corequisite: MATH 0345

MATH 0373 Developmental Mathematics Base NCBO 3 Credit Hours (3 Lec)

Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. The Base NCBO supports students in developing skills, strategies and reasoning needed to succeed in mathematics, including communication and appropriate use of technology.

Corequisite: MATH 0375

MATH 0375 Dev Math Algebra Intensive 3 Credit Hours (3 Lec)

The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving.

Corequisite: MATH 0373

MATH 0376 Intermediate Algebra 3 Credit Hours (3 Lec)

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.

Corequisite: MATH 0375

MATH 0456 Foundations of Mathematical Reasoning 4 Credit Hours (4 Lec)

Topics in Mathematics such as arithmetic operations, basic algebraic concepts and notation, geometry, and real and complex number systems.

MATH 01124 Mathematics for Business and S 1 Credit Hour (1 Lec)

The NCBO supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include a study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.

Corequisite: MATH 1324

MATH 1314 College Algebra 3 Credit Hours (3 Lec)

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Pre-requisite: Meet TSI college-readiness standard for Mathematics; or equivalent.

Course Type: Mathematics - A CAPP

MATH 1316 Plane Trigonometry 3 Credit Hours (3 Lec)

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

Course Type: Mathematics - A CAPP

Prerequisite: MATH 1314; (Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, MATH 376 with a grade of P_DV or higher, MATH 304 with a grade of C_DV or higher, TSI Mathematics with a minimum score of 350, MATH 314 with a grade of C_DV or higher, MATH 314 with a grade of P_DV or higher, MATH 324 with a grade of C_DV or higher, MATH 324 with a grade of P_DV or higher, TSIA2 Math CRC with a minimum score of 950, or TSIA2 Math Diagnostic with a minimum score of 6)

MATH 1324 Mathematics for Business and Social Sciences 3 Credit Hours (3 Lec)

The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. Pre-requisite: Meet TSI college-readiness standard for Mathematics; or equivalent.

Course Type: Mathematics - A CAPP

Prerequisite: MATH 1314; ((Math-College Ready with a minimum score of 1300 and Math-College Ready with a minimum score of 1300), (MATH 376 with a grade of C_DV or higher and MATH 376 with a grade of C_DV or higher), (MATH 376 with a grade of P_DV or higher and MATH 376 with a grade of P_DV or higher), (MATH 304 with a grade of C_DV or higher and MATH 304 with a grade of C_DV or higher), (TSI Mathematics with a minimum score of 350 and TSI Mathematics with a minimum score of 350), (MATH 314 with a grade of C_DV or higher and MATH 314 with a grade of C_DV or higher), (MATH 314 with a grade of P_DV or higher and MATH 314 with a grade of P_DV or higher), (MATH 324 with a grade of C_DV or higher and MATH 324 with a grade of C_DV or higher), (MATH 324 with a grade of P_DV or higher and MATH 324 with a grade of P_DV or higher), (TSIA2 Math CRC with a minimum score of 950 and TSIA2 Math CRC with a minimum score of 950), or (TSIA2 Math Diagnostic with a minimum score of 6 and TSIA2 Math Diagnostic with a minimum score of 6)); (TSI Mathematics with a minimum score of 310, ABE Math Diagnostic Level with a minimum score of 5, MATH 375 with a grade of C_DV or higher, MATH 375 with a grade of P_DV or higher, MATH 301 with a grade of C_DV or higher, MATH 301 with a grade of P_DV or higher, MATH 345 with a grade of C_DV or higher, MATH 345 with a grade of P_DV or higher, MATH co-requisite eligible with a minimum score of 10, or (TSIA2 Math CRC with a minimum score of 910 and TSIA2 Math Diagnostic with a minimum score of 1)); (TSI Mathematics with a minimum score of 350, MATH 376 with a grade of C_DV or higher, MATH 376 with a grade of P_DV or higher, MATH 314 with a grade of C_DV or higher, MATH 314 with a grade of P_DV or higher, MATH 324 with a grade of C_DV or higher, MATH 324 with a grade of P_DV or higher, MATH 304 with a grade of C_DV or higher, MATH 304 with a grade of P_DV or higher, Math-College Ready with a minimum score of 1300, TSIA2 Math CRC with a minimum score of 950, or TSIA2 Math Diagnostic with a minimum score of 6); (TSI Mathematics with a minimum score of 345, MATH 375 with a grade of C_DV or higher, MATH 375 with a grade of P_DV or higher, or MATH 301 with a grade of C_DV or higher)

MATH 1325 Calculus for Business and Social Sciences 3 Credit Hours (3 Lec)

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413, Calculus I. Prerequisite: MATH 1324, Mathematics for Business and Social Sciences or MATH 1314, College Algebra (3 SCH version).

MATH 1332 Contemporary Mathematics (Quantitative Reasoning) 3 Credit Hours (3 Lec)

Intended for Non STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered. Prerequisite: Meet TSI college-readiness standard for Mathematics

Prerequisite: (Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, TCOMP–Math (Algebra) with a minimum score of 39, THEA–Math with a minimum score of 230, TASP–Math with a minimum score of 230, TAKS–Math (Exit Level) with a minimum score of 2200, or MATH 376 with a grade of P_DV or higher); (Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, MATH 376 with a grade of P_DV or higher, MATH 304 with a grade of C_DV or higher, TSI Mathematics with a minimum score of 350, MATH 314 with a grade of C_DV or higher, MATH 314 with a grade of P_DV or higher, MATH 324 with a grade of C_DV or higher, MATH 324 with a grade of P_DV or higher, TSIA2 Math CRC with a minimum score of 950, or TSIA2 Math Diagnostic with a minimum score of 6); (TSI Mathematics with a minimum score of 350, MATH 301 with a grade of C_DV or higher, MATH 375 with a grade of C_DV or higher, MATH 375 with a grade of P_DV or higher, MATH 304 with a grade of C_DV or higher, MATH 376 with a grade of C_DV or higher, or MATH 376 with a grade of P_DV or higher); (TSI Mathematics with a minimum score of 336, ABE Math Diagnostic Level with a minimum score of 5, MATH 374 with a grade of C_DV or higher, MATH 374 with a grade of P_DV or higher, MATH 372 with a grade of C_DV or higher, MATH 372 with a grade of P_DV or higher, MATH co-requisite eligible with a minimum score of 10, or (TSIA2 Math CRC with a minimum score of 910 and TSIA2 Math Diagnostic with a minimum score of 1)); (TSI Mathematics with a minimum score of 336, ABE Math Diagnostic Level with a minimum score of 5, MATH 374 with a grade of C_DV or higher, MATH 374 with a grade of P_DV or higher, MATH 373 with a grade of C_DV or higher, or MATH 373 with a grade of P_DV or higher); (TSI Mathematics with a minimum score of 350, MATH 345 with a grade of C_DV or higher, MATH 345 with a grade of P_DV or higher, MATH 375 with a grade of C_DV or higher, MATH 375 with a grade of P_DV or higher, MATH 332 with a grade of C_DV or higher, MATH 332 with a grade of P_DV or higher, MATH 342 with a grade of C_DV or higher, MATH 342 with a grade of P_DV or higher, MATH 301 with a grade of C_DV or higher, MATH 301 with a grade of P_DV or higher, Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, MATH 376 with a grade of P_DV or higher, TSIA2 Math CRC with a minimum score of 950, or TSIA2 Math Diagnostic with a minimum score of 6)

MATH 1342 Elementary Statistical Methods 3 Credit Hours (3 Lec)

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. Prerequisite: Meet TSI college-readiness standard for Mathematics

Course Type: Mathematics - A CAPP

Prerequisite: (Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, TCOMP–Math (Algebra) with a minimum score of 39, THEA–Math with a minimum score of 230, TASP–Math with a minimum score of 230, TAKS–Math (Exit Level) with a minimum score of 2200, or MATH 376 with a grade of P_DV or higher); (Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, MATH 376 with a grade of P_DV or higher, MATH 304 with a grade of C_DV or higher, TSI Mathematics with a minimum score of 350, MATH 314 with a grade of C_DV or higher, MATH 314 with a grade of P_DV or higher, MATH 324 with a grade of C_DV or higher, MATH 324 with a grade of P_DV or higher, TSIA2 Math CRC with a minimum score of 950, or TSIA2 Math Diagnostic with a minimum score of 6); (TSI Mathematics with a minimum score of 350, MATH 301 with a grade of C_DV or higher, MATH 375 with a grade of C_DV or higher, MATH 375 with a grade of P_DV or higher, MATH 304 with a grade of C_DV or higher, MATH 376 with a grade of C_DV or higher, or MATH 376 with a grade of P_DV or higher); (TSI Mathematics with a minimum score of 336, ABE Math Diagnostic Level with a minimum score of 5, MATH 374 with a grade of C_DV or higher, MATH 374 with a grade of P_DV or higher, MATH 372 with a grade of C_DV or higher, MATH 372 with a grade of P_DV or higher, MATH co-requisite eligible with a minimum score of 10, or (TSIA2 Math CRC with a minimum score of 910 and TSIA2 Math Diagnostic with a minimum score of 1)); (TSI Mathematics with a minimum score of 336, ABE Math Diagnostic Level with a minimum score of 5, MATH 374 with a grade of C_DV or higher, MATH 374 with a grade of P_DV or higher, MATH 373 with a grade of C_DV or higher, or MATH 373 with a grade of P_DV or higher); (TSI Mathematics with a minimum score of 350, MATH 345 with a grade of C_DV or higher, MATH 345 with a grade of P_DV or higher, MATH 375 with a grade of C_DV or higher, MATH 375 with a grade of P_DV or higher, MATH 332 with a grade of C_DV or higher, MATH 332 with a grade of P_DV or higher, MATH 342 with a grade of C_DV or higher, MATH 342 with a grade of P_DV or higher, MATH 301 with a grade of C_DV or higher, MATH 301 with a grade of P_DV or higher, Math-College Ready with a minimum score of 1300, MATH 376 with a grade of C_DV or higher, MATH 376 with a grade of P_DV or higher, TSIA2 Math CRC with a minimum score of 950, or TSIA2 Math Diagnostic with a minimum score of 6)

MATH 1350 Mathematics for Teachers I (Fundamentals of Mathematics I) 3 Credit Hours (3 Lec)

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314.

MATH 1351 Mathematics for Teachers II (Fundamentals of Mathematics II) 3 Credit Hours (3 Lec)

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314.

MATH 2305 Discrete Mathematics 3 Credit Hours (3 Lec)

A course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques.

MATH 2318 Linear Algebra 3 Credit Hours (3 Lec)

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering.

Prerequisite: MATH 2414

MATH 2320 Differential Equations 3 Credit Hours (3 Lec)

Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems.

Prerequisite: MATH 2414

MATH 2412 Pre-Calculus Math 4 Credit Hours (4 Lec)

In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Pre-requisites: MATH 1314, College Algebra or the equivalent preparation

Course Type: Mathematics - A CAPP

MATH 2413 Calculus I 4 Credit Hours (4 Lec)

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. Pre-requisites: MATH 2412 Pre-Calculus Math (4 SCH version) or equivalent preparation.

Course Type: Mathematics - A CAPP

MATH 2414 Calculus II 4 Credit Hours (4 Lec)

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals. Prerequisites: MATH 2413 Calculus I (4 SCH version).

MATH 2415 Calculus III 4 Credit Hours (4 Lec)

Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, and the Divergence Theorem, and Stokes' Theorem. Prerequisite; MATH 2414 Calculus II (4 SCH version).