

MATH CALCULUS & PRECALCULU (MAC)

MAC 1105 - College Algebra (3 Credits)

In this course, students will develop problem solving skills, critical thinking, computational proficiency, and contextual fluency through the study of equations, functions, and their graphs. Emphasis will be placed on quadratic, exponential, and logarithmic functions. Topics will include solving equations and inequalities, definition and properties of a function, domain and range, transformations of graphs, operations on functions, composite and inverse functions, basic polynomial and rational functions, exponential and logarithmic functions, and applications.

Prerequisite(s): MAT 1033 or STA 2023 or (SAT Math Score with a score of 490 or MATH SECTION SCORE with a score of 520) or ACT Math with a score of 21 or (Accuplacer Algebra Subscore with a score of 090 or Mobius Alg&Pre-Calc Readiness Test with a score of 15) or PERT Mathematics with a score of 123 or ALEKS APPL with a score of 46

Attribute(s): GE Quan Reasoning Competency, GEMA - Gen. Ed -Math, GRMT - Computation Skills, Gen. Ed -Math, QUAN - GE Quan Reasoning Competency

MAC 1147 - Precalculus (4 Credits)

Survey of the basic properties of classes of functions commonly used in applications. Topics may include polynomial, trigonometric, exponential, logarithmic, conic sections, matrices, mathematical induction, and polar coordinates.

Prerequisite(s): MAC 1105 or (Accuplacer Coll. Math Subscore with a score of 066 or Mobius Alg&Pre-Calc Readiness Test with a score of 18) or ACT Math with a score of 24 or SAT Math Score with a score of 550 or MATH SECTION SCORE with a score of 570 or ALEKS APPL with a score of 61

Attribute(s): GE Quan Reasoning Competency, GEMA - Gen. Ed -Math, GRMT - Computation Skills, Gen. Ed -Math, QUAN - GE Quan Reasoning Competency

MAC 2233 - Elementary Calculus I (3 Credits)

Introduction to the techniques of calculus of primary use to business students. Topics include: differentiation and integration of algebraic functions with applications, exponential and logarithmic functions with applications to finance and economics. This course is NOT equivalent to MAC 2311.

Prerequisite(s): MAC 1105 or (Accuplacer Coll. Math Subscore with a score of 066 or Mobius Alg&Pre-Calc Readiness Test with a score of 18) or ACT Math with a score of 24 or SAT Math Score with a score of 550 or MATH SECTION SCORE with a score of 570 or ALEKS APPL with a score of 61

Attribute(s): GE Quan Reasoning Competency, GEMA - Gen. Ed -Math, GRMT - Computation Skills, Gen. Ed -Math, QUAN - GE Quan Reasoning Competency

MAC 2311 - Calculus I (4 Credits)

In this course, students will develop problem solving skills, critical thinking, computational proficiency, and contextual fluency through the study of limits, derivatives, and definite and indefinite integrals of functions of one variable, including algebraic, exponential, logarithmic, and trigonometric functions, and applications. Topics will include limits, continuity, differentiation and rates of change, optimization, curve sketching, and introduction to integration and area.

Prerequisite(s): MAC 1147 or MAC 2157 or (Accuplacer Coll. Math Subscore with a score of 087 or Mobius Trig&Elem Functions Test with a score of 19) or ACT Math with a score of 29 or SAT Math Score with a score of 650 or MATH SECTION SCORE with a score of 670 or ALEKS APPL with a score of 76

Attribute(s): GE Quan Reasoning Competency, GEMA - Gen. Ed -Math, GRMT - Computation Skills, Gen. Ed -Math, QUAN - GE Quan Reasoning Competency

MAC 2312 - Calculus II (4 Credits)

Continuation of MAC 2311. Topics include integration by substitution, inverse functions, exponential and logarithmic functions, inverse trig functions, solids and surfaces of revolution, arc length, techniques of integration, parametric curves and polar coordinates, power series, Taylor's theorem. Emphasis on conceptual understanding and modeling of physical phenomena.

Prerequisite(s): MAC 2311

Attribute(s): BIOE - Biology Elective, BPRO - BS Bio Pre-Pro Reqs, BTEL - Biotec Restricted Elect, CRIT - GE Critical Think Competency, GE Critical Think Competency, GE Quan Reasoning Competency, GEMA - Gen. Ed -Math, GRMT - Computation Skills, Gen. Ed -Math, QUAN - GE Quan Reasoning Competency

MAC 2313 - Calculus III (4 Credits)

Continuation of MAC 2312. Topics include vectors in the plane and 3-space, topics from plane and solid analytic geometry, curves in space, tangential and normal acceleration, directional derivatives and the gradient, tangent and normal to surfaces, extrema of multivariable functions, Lagrange multipliers, double and triple integrals, integration in cylindrical and spherical coordinates. Emphasis on conceptual understanding and modeling of physical phenomena.

Prerequisite(s): MAC 2312

Attribute(s): GE Quan Reasoning Competency, GEMA - Gen. Ed -Math, GRMT - Computation Skills, Gen. Ed -Math, QUAN - GE Quan Reasoning Competency