MATH (Mathematics)

also see STAT (Statistics)

All new students must take a mathematics assessment exam prior to enrolling in any MATH course. The results of the exam will be used to place the student into the following sequence.

MATH 123C or 125 satisfies the mathematics competency requirement for graduation. Students placed prior to MATH 123C or 125 may advance through the sequence by achieving a minimum grade of “C” in each required prerequisite course.
MATH 105: Arithmetic
- 3 units, Letter, 3 lec
- NDA
- This course explores arithmetic concepts from a modern point of view. The course includes mathematics operations using whole numbers, fractions and decimals as well as arithmetic applications in Bus, finance and geometry.

MATH 110: Introduction to Algebraic Concepts
- 5 units, Letter, 5 lec
- NDA
- Prerequisite: MATH 105
- Math 110 discusses abstract ideas necessary for understanding algebra and reviews selected topics in arithmetic relevant to algebra. Math 110 introduces fundamental notions of algebra including signed numbers, simple equations, and modeling. Math 110 includes hands-on laboratories and group work instruction in study skills.

MATH 112: Pre-Algebra
- 3 units, Letter, 3 lec
- NDA
- Prerequisite: MATH 105
- This course presents a review of arithmetic concepts followed by an introduction to elementary algebra topics such as operations with integers, exponents and solution of simple linear equations.

MATH 115: Elementary Algebra
- 5 units, Letter, 5 lec/1 lab
- NDA
- Prerequisite: MATH 110 or 112
- This course is an introduction to the concepts of algebra. Topics include arithmetic operations with signed numbers, properties of real numbers, algebraic expressions, solving linear equations and inequalities, graphing linear equations and inequalities in two variables, solving systems of linear equations and inequalities, exponents, polynomials, factoring, rational expressions, roots, radicals, methods of solving quadratic equations, and setting up and solving a variety of word problems.

MATH 121: Elementary Geometry for College Students
- 3 units, Letter, 3 lec
- NDA
- Prerequisite: MATH 115 or 123B
- This course covers the definitions, axioms and theorems of geometry relating to angles, lines, circles, polygons and polyhedra. The meaning and techniques of logical proof is also covered.

MATH 123A: Elementary and Intermediate Algebra I
- 4 units, Letter, 4 lec
- NDA
- Prerequisite: MATH 112 or 110
- First of three modules for Math 123 covering elementary algebra topics such as properties and operations with real numbers, addition, subtraction, multiplication of algebraic expressions, solution of linear equations and inequalities. Solution of word problems involving linear equations and inequalities.

MATH 123B: Elementary and Intermediate Algebra II
- 4 units, Letter, 4 lec
- NDA
- Prerequisite: MATH 123A
- This is the second of three modules for Math 123 covering elementary algebra topics such as addition, subtraction, multiplication of polynomials, solution of second degree equations and radical expressions. Solution of word problems involving second degree equations and radical expressions.

MATH 123C: Elementary and Intermediate Algebra III
- 4 units, Letter, 4 lec
- DA
- Prerequisite: MATH 123B
- This is the third of three modules for Math 123 covering intermediate algebra topics such as functions and their operations, conic sections, series and sequences. Applications of these topics to Bus, science and engineering are included.

MATH 125: Intermediate Algebra
- 5 units, Letter, 4 lec/2 lab
- DA
- Prerequisite: MATH 115
- This course is a study of the properties of real numbers, laws of exponents, radicals, equations and inequalities in linear and quadratic form, system of equations, matrices, graphing in two variables, rational expressions & equations, complex numbers, conic sections & their graphs, exponential and logarithmic functions.

MATH 137: Pre-Statistics Algebra
- 5 units, Letter, 5 lec/1 lab
- NDA
- Prerequisite: MATH 110 or 112 or placement exam
- This course introduces algebra topics and the basic elements of exploratory data analysis. Topics in the course include: solving algebraic equations, simplifying algebraic expressions, data analysis,
sample statistics and graphs, measures of central tendency and spread, functions and their graphs, probability, sequences and series, and exponential and logarithmic functions. This class is intended as preparation for students who wish to take Statistics. Students wishing to take other 200 level math courses will require Math 123C and should consult the college catalog for prerequisites.

MATH 215: Principles of Mathematics I
- 3 units, Letter, 3 lec
- DA, CSU/UC, LACCD D2, CSUGE B4
- Prerequisite: MATH 123C or 125
- First of two courses in a sequence designed for elementary school teachers. Emphasis is on the pedagogy of sets and relations, numeration systems, basic problem solving, elementary number theory and their applications.

MATH 216: Principles of Mathematics II
- 3 units, Letter, 3 lec
- DA, CSU/UC, LACCD D2, CSUGE B4
- Prerequisite: MATH 215
- Second of two courses in a sequence designed for elementary school teachers. Emphasis is on the pedagogy of probability, statistics networks, basic geometry concepts and their applications.

MATH 227: Statistics
- 4 units, Letter, 4 lec, DE
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2, C-ID MATH 110
- Prerequisite: MATH 123C or 125, or 137
- This course is an introduction to probability, descriptive and inferential statistics. Topic include descriptive statistics; probability and sampling distribution; statistical inference; correlation and linear regression, chi-square and t-tests; application of technology of statistical analysis including the interpretation of the relevance of statistical finding. Applications using data from disciplines including Bus, social science, psychology, life science, and education.

MATH 234: College Level Algebra
- 4 units, Letter, 4 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2
- Prerequisite: MATH 123C or 125
- This course is designed for students who are looking for a college level mathematics transfer level requirement. This course also satisfies the Math 235 and 235 sequence.

MATH 235: Finite Mathematics
- 5 units, Letter, 5 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2, C-ID MATH 140
- Prerequisite: MATH 123C or 125
- This course begins with a brief algebra review followed by finite mathematical concepts such as theory of matrices, simplex method, linear programming and their applications.

MATH 236: Calculus for Business and Social Science
- 5 units, Letter, 5 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2, C-ID MATH 140
- Prerequisite: MATH 234
- This course consists of basic concepts in differential and integral calculus in single and multiple variables with applications for Bus, life and social sciences. Topics include limits, derivatives, maxima and applications, integration techniques with application, and graphs.

MATH 240: Trigonometry
- 3 units, Letter, 3 lec
- DA, CSU, LACCD D2, CSUGE B4
- Prerequisite: MATH 121, and 123C or 125
- This course is designed for students who are looking for a college level mathematics transfer level requirement. This course also satisfies the Math 235 and 235 sequence.

MATH 260: Precalculus
- 5 units, Letter, 5 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2
- Prerequisite: MATH 123C or 125 and 240
- This course consists of topics essential for a comprehensive background for the Calculus sequence. Topics include function analysis, analytic geometry, theory of equations, matrices, induction, sequences and series.

MATH 265: Calculus With Analytic Geometry I
- 5 units, Letter, 5 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2
- Prerequisite: MATH 240 and 260
- This is the first course in a sequence of three courses in calculus and analytic geometry. Topics include functions, limits, continuity, derivatives, integrals of rational and trigonometric functions. Applications include topics in engineering and physics.
MATH 266: Calculus With Analytic Geometry II
- 5 units, Letter, 5 lec, DE
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2A, C-ID MATH 220
- Prerequisite: MATH 265
- This is the second course in a three course sequence calculus and analytic geometry. Topics include applications of integrals such as findingareas, volumes and arc lengths, study of transcendental functions, techniques of integration, improper integrals, infinite series and analytic geometry of conic sections.

MATH 267: Calculus With Analytic Geometry III
- 5 units, Letter, 5 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2A, C-ID MATH 230
- Prerequisite: MATH 266
- This is the third course in a sequence of three courses in calculus and analytic geometry. Topics include polar, spherical and cylindrical coordinates; parametric equations, vector algebra; calculus in two and three dimensions; partial derivatives; multiple integrals and applications.

MATH 270: Linear Algebra
- 3 units, Letter, 3 lec, DE
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2A
- Prerequisite: MATH 266
- This course emphasizes the study of matrix algebra, vector spaces and linear transformations, including theory and applications.

MATH 275: Ordinary Differential Equations
- 3 units, Letter, 3 lec
- DA, CSU/UC, LACCD D2, CSUGE B4, IGETC 2A
- Prerequisite: MATH 267
- This course introduces the theory and applications of ordinary differential equations with emphasis on applications in the physical sciences. Traditional methods of solution by closed forms are studied together with series solutions, numerical methods and Laplace transforms solutions.

MGMT (Management)

MGMT 2: Organization and Management Theory
- 3 units, Letter, 3 lec, DE
- DA, CSU
- This course covers management organization and authority. Students learn to effectively communicate with and motivate employees. Students will understand the processes of hiring, evaluating, promoting and terminating personnel. Students will study the basic objectives, theory, and principles of management decision making.

MGMT 13: Small Business Entrepreneurship
- 3 units, Letter, 3 lec, DE
- DA, CSU
- This course covers the essentials of the successful start-up and management of a small business. Store location, layout, organization, merchandise control, buying, pricing, advertising, government regulation, labor relations, public relations and other phases of small business are studied. Particular emphasis is placed on entrepreneurship and business start-ups.

MGMT 31: Human Relations for Employees
- 3 units, Letter, 3 lec, DE
- DA, CSU
- This course presents the practical application of basic psychology in planning, conducting and evaluating conferences and interviews. Special emphasis on dynamics of counseling, interviewing and conference leading. Attention is given to individual and group attitudes in the occupational situation as they affect motivation, status and morale.

MGMT 33: Human Capital Management
- 3 units, Letter, 3 lec, DE
- DA, CSU
- Advisory Corequisite: ENGLISH 28
- This course introduces human resources management techniques and procedures. Topics include the selection, placement, testing, orientation, counseling, merit rating, promotion, transfer and training.

MICRO (Microbiology)

MICRO 20: General Microbiology
- 4 units, Letter, 3 lec/3 lab
- DA, CSU/UC, LACCD A, CSUGE B2/B3, IGETC 5B/5C
- Prerequisite CHEM 66 and 101; Advisory Corequisite: ANATOMY 1, BIOLOGY 33, and PHYSIOL 1
- This course surveys the principles of microbiology and how they relate to the entire biological world and to humans. Topics include: chemistry of life, cell structure, metabolic processes, human infection and disease, immunology, molecular genetics, and microbe ecology.

Student learning outcomes may appear in any or all of the following online locations: linked to the course outline at https://ecd.laccd.edu/Default.aspx, and/or listed at http://www.lahc.edu/facultystaff/slo/courseassessment.html, and/or https://effectiveness.lahc.edu/cpc/haps/SitePages/2015-18%20SLO-SA%20Assessment.aspx. If so, those listed on the last site supersede all others.