Mathematics   MATH

Degree:
   A.S. – Mathematics
   AS-T – Mathematics for Transfer

Division of Mathematics/Statistics & Engineering
Dr. Daniel Styer, Dean
Rodda Hall North, room 300
916-558-2202

Mathematics
Associate in Science Degree

Program Information
The mathematics program provides students the opportunity to complete the lower-division coursework required for four-year programs in mathematics. For students who plan to transfer, completion of the CSU General-Breadth or IGETC general education pattern is encouraged. It is highly recommended that students meet with a counselor because major and general education requirements vary for each college/university. These courses also fulfill general education requirements for allied health, biological sciences, physical sciences, computer science and engineering.

Note: Students planning to transfer to four-year institutions are advised to meet with a counselor for general education requirements.

Note: The University of California has a credit restriction on certain combinations of mathematics courses. See counselor for detailed information on the current UC Transferable Course Agreement.

Career Opportunities
Mathematicians work as statisticians, analysts, computer programmers, actuaries, researchers, planners and educators. This major is designed to meet some of the lower-division requirements for a major in Mathematics.

Upon completion of this program, the student will be able to:
- explain and apply basic concepts of single variable calculus including various forms of derivatives and integrals, their interconnections, and their uses in analyzing and solving real-world problems.
- explain and apply basic concepts of multivariable calculus, linear algebra, or differential equation techniques, their interconnections, and their uses in analyzing and solving real-world problems.
- write logical proofs of basic theorems.
- analyze and evaluate various theoretical and real-world problems and analyze existing solutions or create and evaluate novel solutions using mathematics, logic, and technology as appropriate.

Required Program	Units
MATH 400 Calculus I	5
MATH 401 Calculus II	5
MATH 402 Calculus III	5
MATH 410 Introduction to Linear Algebra	3
MATH 420 Differential Equations	4
A minimum of 3 units from the following:	3

   CISP 360 Introduction to Structured Programming (4)
   CISP 400 Object Oriented Programming with C++ (4)
   CISP 401 Object Oriented Programming with Java (4)
   ENGR 405 Engineering Problem Solving (3)
   PHIL 325 Symbolic Logic (3)
   STAT 300 Introduction to Probability and Statistics (4)
      or STAT 480 Introduction to Probability and Statistics –
      Honors (4)

Total Units Required	**25**

Associate in Science (A.S.) Degree
The Associate in Science degree may be obtained by completion of all courses in the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See SCC graduation requirements.

Associate Degree
for Transfer
A Degree with a Guarantee.

Mathematics
Associate in Science for Transfer

Program Information
The mathematics program provides students the opportunity to complete the lower-division coursework required for four-year programs in mathematics. This program is for students who plan to transfer to a California State University (CSU). Completion of the CSU General-Breadth or IGETC general education pattern is required. It is highly recommended that students meet with a counselor because major and general education requirements vary for each college/university.

The Associate Degree for Transfer (ADT) student completion requirements (as stated in SB1440 law):

(1)   Completion of a minimum of 60 semester units or 90 quarter units that are eligible for transfer to the California State University, including both of the following:

   (A) The California State University General Education-Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC).

   (B) A minimum of 18 semester units or 27 quarter units in a major or area of emphasis, as determined by the community college district.

(2)   Obtainment of a minimum grade point average of 2.0.

ADTs also require that students must earn a "C" or better in all courses required for the major or area of emphasis.

Career Opportunities
Mathematicians work as statisticians, analysts, computer programmers, actuaries, researchers, planners, and educators. This major is designed to meet the lower-division requirements for most bachelor's degrees in Mathematics.

Upon completion of this program, the student will be able to:
- explain and apply basic concepts of single variable calculus including various forms of derivatives and integrals, their interconnections, and their uses in analyzing and solving real-world problems.
- explain and apply basic concepts of multivariable calculus, linear algebra, or differential equation techniques, their interconnections, and their uses in analyzing and solving real-world problems.
- write logical proofs of basic theorems.

Required Program	Units
MATH 400 Calculus I	5
MATH 401 Calculus II	5
MATH 402 Calculus III	5
MATH 410 Introduction to Linear Algebra	3
MATH 420 Differential Equations	4

Total Units	**22**

Associate in Science for Transfer Degree
The Associate in Science in Mathematics for Transfer (AS-T) degree may be obtained by completion of 60 transferable, semester units with a minimum 2.0 GPA, including (a) the major or area of emphasis described in the Required Program, and (b) either the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.

Mathematics (MATH)

MATH 14   **Preparation for Math –**   **1 Unit**
                        Success Academy
Prerequisite: Placement through the assessment process.
Hours: 18 hours LEC
This course provides an introduction to student learning expectations and the outcomes of higher education. This course has a specific focus on math preparation through the implementation of individualized group instruction for students. This course is primarily intended for students who will be taking an Arithmetic, Pre-Algebra, Elementary Algebra, or Intermediate Algebra course in the upcoming semester.

MATH 27   **Self-Paced Basic Skills**   **.5-2 Units**
                        Mathematics
Prerequisite: None.
Hours: 24 hours LEC; 108 hours LAB
This is a self-paced course in basic mathematics skills including the basic operations of addition, subtraction, multiplication, and division applied to the whole numbers, fractions, and decimals. This course is graded Pass/No Pass. Credit is earned in one-half unit increments and is dependent on progress in the course and class participation. This is an open-entry/open-exit course which may be taken for a maximum of two units. This course does not fulfill the learning skills requirement for graduation.

MATH 28   **Basic Skills Mathematics**   **3 Units**
Prerequisite: None.
Hours: 54 hours LEC; 18 hours LAB
This is a lecture course with lab time in basic mathematics skills including the basic operations of addition, subtraction, multiplication, and division applied to the whole numbers, fractions, and decimals. This course does not fulfill the learning skills requirement for graduation.

MATH 34   **Pre-algebra**   **4 Units**
Prerequisite: MATH 28 with a "C" or better, or completion of the MATH 27 curriculum (80% or higher on all six chapter tests), or placement through the assessment process.
Hours: 72 hours LEC
The emphasis in this course will be on skills necessary for success in elementary algebra. Course content will include review of fundamentals of arithmetic including whole numbers, common fractions, decimal fractions, and percentages. Other topics include order of operations, signed numbers, complex fractions, exponents, and scientific notation. There will be an introduction to the algebra of polynomials and/or an introduction to graphing lines, as time permits.

MATH 80   **Mathematics Study Skills**   **1 Unit**
Prerequisite: MATH 28 with a grade of "C" or better, or completion of the MATH 27 curriculum (80% or higher on all six chapter tests), or placement through the assessment process, or concurrent enrollment in either MATH 27 or MATH 28.
Advisory: ENGRD 110 with a grade of "C" or better
Hours: 18 hours LEC
This course will help students increase their motivation and confidence and maximize their abilities in any mathematics course. Students will consider their current levels of math and test anxieties and make progress in lowering them to a productive level. Students will gain strategies to overcome barriers to mathematical success. Specific concepts will be designed for the current level of each student. This course is primarily intended for students who will be taking another mathematics or statistics course concurrently, but students may also take this course as preparation before enrolling in a mathematics or statistics course. This course is graded as Pass/No Pass.

MATH 100   **Elementary Algebra**   **5 Units**
Prerequisite: MATH 34 with a grade of "C" or better, or placement through the assessment process.
Hours: 90 hours LEC
This course includes the fundamental concepts and operations of algebra with problem solving skills emphasized throughout. Topics include properties of real numbers, linear equations and inequalities, integer exponents, polynomials, polynomial factorization, rational expressions and equations, radical expressions and equations, rational exponents, systems of linear equations and inequalities, the rectangular coordinate system, graphs and equations of lines, and quadratic equations.

MATH 103   **Elementary Algebra, Part I**   **3 Units**
Prerequisite: MATH 34 with a grade of "C" or better, or placement through the assessment process.
Hours: 54 hours LEC
This course will cover the first half of the traditional MATH 100 course. Topics include: properties of real numbers, linear equations and inequalities, integer exponents, polynomials, systems of linear equations and inequalities, the rectangular coordinate system, graphs and equations of lines, and applications.

MATH 104   **Elementary Algebra, Part II**   **3 Units**
Prerequisite: MATH 103 with a grade of "C" or better
Hours: 54 hours LEC
This course covers the second half of the traditional MATH 100 course. Topics include: polynomial factorization, rational expressions and equations, radical expressions and equations, rational exponents, quadratic equations, and applications.

MATH 110   **Elementary Geometry**   **5 Units**
Prerequisite: MATH 100 or 104 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b)
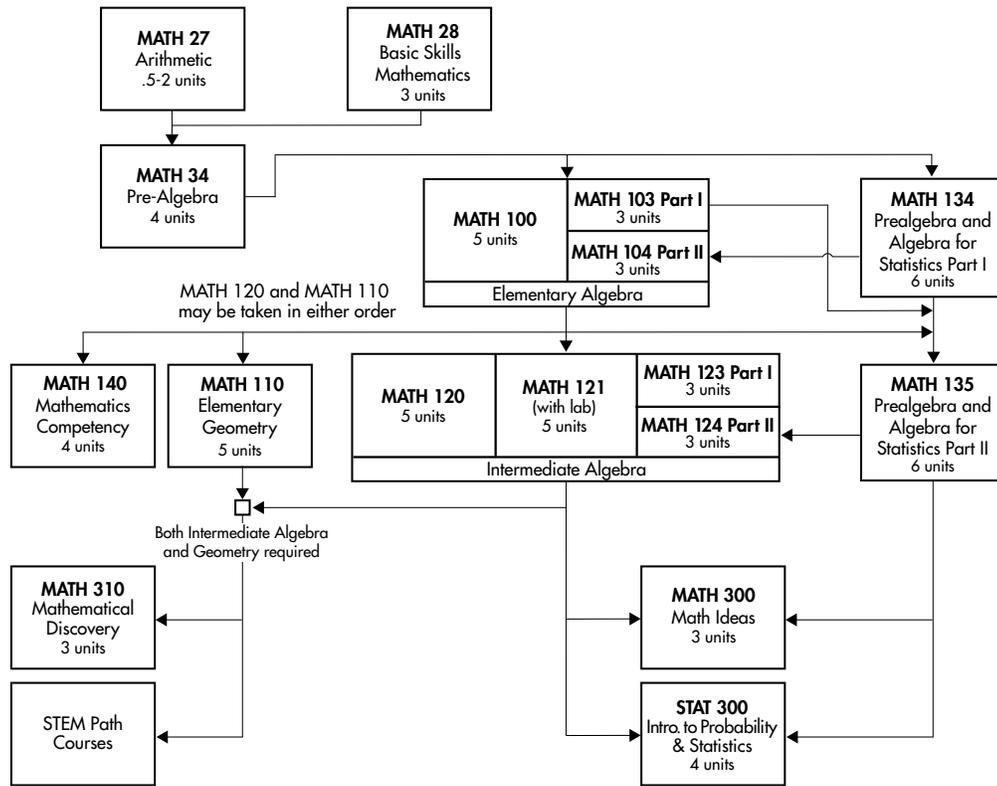*Hours: 90 hours LEC*
This course introduces Euclidean Geometry. Topics include sets, definitions, postulates, theorems, deductive and inductive reasoning, proof, parallel lines, triangles, polygons, congruence, similarity, constructions, the Pythagorean Theorem, right triangle trigonometry, circles, analytic geometry, and elementary solid geometry.

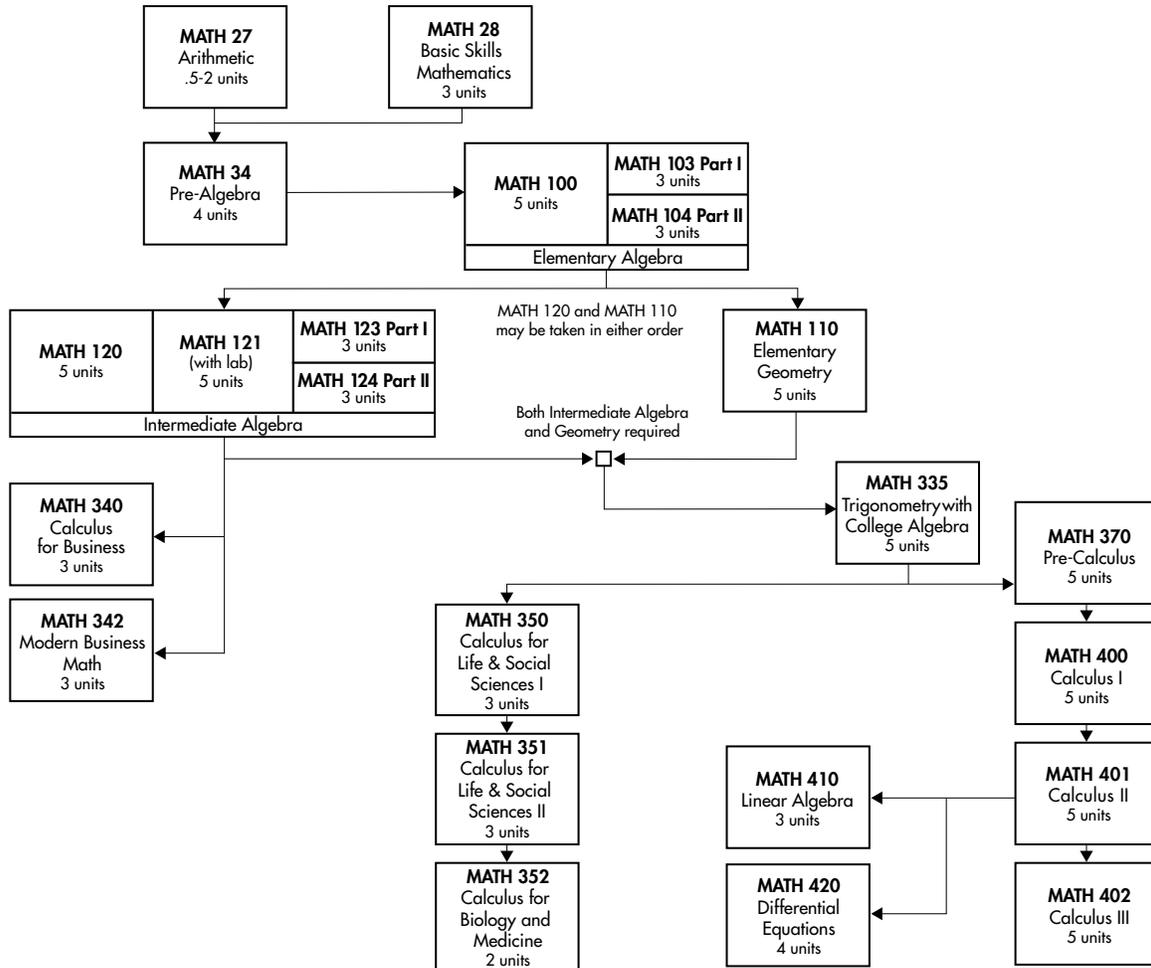**MATH 120**   **Intermediate Algebra**   **5 Units**
Prerequisite: MATH 100 or 104 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b)
Hours: 90 hours LEC
This course reviews and extends the concepts of elementary algebra, with problem solving skills emphasized throughout. Topics that are reviewed and extended include linear and quadratic equations, factoring polynomials, rational expressions, exponents, radicals, equations of lines, and systems of equations. New topics include graphs and their translations and reflections, functions, exponential and logarithmic functions, graphs of quadratic functions, conic sections, nonlinear systems of equations, polynomial, rational, and absolute value inequalities, sequences, series, and the Binomial Theorem.

Non-STEM Math Sequence

MATH 27 Arithmetic .5-2 units

MATH 28 Basic Skills Mathematics 3 units

MATH 34 Pre-Algebra 4 units

MATH 100 5 units — **MATH 103 Part I** 3 units / **MATH 104 Part II** 3 units — Elementary Algebra

MATH 134 Prealgebra and Algebra for Statistics Part I 6 units

MATH 120 and MATH 110 may be taken in either order

MATH 140 Mathematics Competency 4 units

MATH 110 Elementary Geometry 5 units

MATH 120 5 units — **MATH 121** (with lab) 5 units — **MATH 123 Part I** 3 units / **MATH 124 Part II** 3 units — Intermediate Algebra

MATH 135 Prealgebra and Algebra for Statistics Part II 6 units

Both Intermediate Algebra and Geometry required

MATH 310 Mathematical Discovery 3 units

STEM Path Courses

MATH 300 Math Ideas 3 units

STAT 300 Intro. to Probability & Statistics 4 units

STEM Math Sequence

MATH 27 Arithmetic .5-2 units

MATH 28 Basic Skills Mathematics 3 units

MATH 34 Pre-Algebra 4 units

MATH 100 5 units — **MATH 103 Part I** 3 units / **MATH 104 Part II** 3 units — Elementary Algebra

MATH 120 and MATH 110 may be taken in either order

MATH 120 5 units — **MATH 121** (with lab) 5 units — **MATH 123 Part I** 3 units / **MATH 124 Part II** 3 units — Intermediate Algebra

MATH 110 Elementary Geometry 5 units

Both Intermediate Algebra and Geometry required

MATH 340 Calculus for Business 3 units

MATH 342 Modern Business Math 3 units

MATH 335 Trigonometry with College Algebra 5 units

MATH 370 Pre-Calculus 5 units

MATH 350 Calculus for Life & Social Sciences I 3 units

MATH 351 Calculus for Life & Social Sciences II 3 units

MATH 352 Calculus for Biology and Medicine 2 units

MATH 400 Calculus I 5 units

MATH 401 Calculus II 5 units

MATH 402 Calculus III 5 units

MATH 410 Linear Algebra 3 units

MATH 420 Differential Equations 4 units

MATH 121   Intermediate Algebra with Lab   5 Units
Prerequisite: MATH 100 or 104 with a grade of "C" or better, or placement through the assessment process.
Hours: 90 hours LEC; 18 hours LAB
This is an intermediate algebra course designed for students who need more classroom time in order to be successful in algebra. This course reviews and extends the concepts of elementary algebra with problem solving skills emphasized throughout. Topics that are reviewed and extended include linear and quadratic equations, factoring polynomials, rational expressions, exponents, radicals, equations of lines, and systems of equations. New topics include graphs and their translations and reflections, functions, exponential and logarithmic functions, graphs of quadratic functions, conic sections, nonlinear systems of equations, polynomial, rational, and absolute value inequalities, sequences, series, and The Binomial Theorem. (Competency: Mathematics)

MATH 123   Intermediate Algebra, Part I   3 Units
Prerequisite: MATH 100 or 104 with a grade of "C" or better, or placement through the assessment process.
Hours: 54 hours LEC
This course will cover the first half of the traditional MATH 120 course. Topics include solving linear equations and inequalities, factoring of polynomials, rational expressions, exponents, radicals, solving equations containing rational and radical expressions, equations of lines, functions and absolute value equations and inequalities, and complex numbers.

MATH 124   Intermediate Algebra, Part II   3 Units
Prerequisite: MATH 123 with a grade of "C" or better
General Education: AA/AS Area II(b)
Hours: 54 hours LEC
This course will cover the second half of the traditional MATH 120 course. Topics include quadratic expressions, equations, inequalities and graphs, conic sections, linear and nonlinear systems of equations, composite and inverse functions, exponential and logarithmic functions, and sequences and series.

MATH 134   Prealgebra and Algebra for   6 Units
            Statistics Part I
Prerequisite: MATH 27 or 28 with a grade of "C" or better, or placement through the assessment process.
Hours: 108 hours LEC
This is the first part of a two-course sequence preparing students for a course in Elementary Statistics. This course covers the arithmetic of whole, signed, fractional, mixed, and decimal numbers, linear equations in one variable, lines and linear equations in two variables, systems of equations in two variables, and arithmetic operations on polynomials. This course is not intended as preparation for Trigonometry.

MATH 135   Prealgebra and Algebra for   6 Units
            Statistics Part II
Prerequisite: MATH 100, 103, or 134 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b)
Hours: 108 hours LEC
This is the second part of a two-course sequence preparing students for a course in Elementary Statistics. This course covers polynomial factoring, rational expressions and equations, radical expressions and equations, the algebra of functions, graphs of elementary functions, modelling with functions, exponential and logarithmic functions, systems of equations in three variables, solving quadratic equations, and summation notation. This course is only intended as preparation for STAT 300 and MATH 300. (Competency: Mathematics)

MATH 140   Mathematics Competency   4 Units
Prerequisite: MATH 100 or 104 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b)
Hours: 72 hours LEC
This course introduces students to everyday uses of mathematics. Topics will include measurement systems, reasoning and logic, elections, inflation and other indexes, chance and risk, and finances. Students will conclude the course by selecting a module of mathematical interest from a list of available topics drawn from career technical programs and contemporary careers including but not limited to nursing, occupational therapy, flight technology, and cosmetology. (Competency: Mathematics)

MATH 170   Algebra Review for Calculus   2 Units
Prerequisite: None.
Hours: 36 hours LEC
This is a review of college preparatory high school algebra. It includes the necessary skills for success in higher mathematics courses including calculus. Topics include real numbers, linear equations and inequalities, properties of lines, absolute values, polynomials and factoring, rational expressions, exponents, quadratic equations, and functions.

MATH 295   Independent Studies   1-3 Units
            in Mathematics
Prerequisite: None.
Hours: 162 hours LAB
This is an independent studies course. The topics are to be arranged between the instructor and the student.

MATH 299   Experimental Offering   .5-10 Units
            in Mathematics
Prerequisite: None
Hours: 90 hours LEC; 18 hours LAB
See Experimental Offering.

MATH 300   Introduction to   3 Units
            Mathematical Ideas
Prerequisite: MATH 120, 121, or 124 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 54 hours LEC
This course is intended to help the non-Mathematics major student relate to the spirit of mathematics through a study of some engaging ideas of mathematics. Several specific topics will be chosen from: numeration systems, logic, sets, number theory, algebraic modeling, geometry, combinatorics, probability, statistics, consumer mathematics, graph theory, voting and apportionment, matrices, and perhaps others. This course is not recommended for students entering elementary school teaching or for business administration majors.

MATH 310   Mathematical Discovery   3 Units

Prerequisite: MATH 120, MATH 121, or MATH 124 with a grade of "C" or better or placement through the assessment process; AND MATH 110 or two semesters of high school Geometry with grades of "C" or better.
General Education: AA/AS Area II(b); CSU Area B4
Course Transferable to UC/CSU
Hours: 54 hours LEC

This course is designed to introduce students to the spirit of mathematics by involving them in aspects of mathematical processes of exploration, conjecture, and proof. Students will examine mathematical patterns and relations, formulate conjectures, and prove their conjectures. Educational standards and issues are a focus throughout the content of the course. Areas of mathematics from which content may be derived include number theory, statistics, probability, geometry, and sequences and series. This course is recommended for students interested in a career in education.

MATH 335   Trigonometry with   5 Units
College Algebra

Prerequisite: MATH 120, 121 or MATH 124 with a grade of "C" or placement through the assessment process; AND MATH 110 or a college Geometry course or two semesters of high school Geometry with a grade of "C" or better.
General Education: AA/AS Area II(b); CSU Area B4
Course Transferable to CSU
Hours: 90 hours LEC

This is a full trigonometry course with algebra concepts reviewed, extended, and integrated when they are relevant to the trigonometric concepts. The trigonometric topics include right triangle trigonometry, unit circle trigonometry, graphs of trigonometric functions, proofs of trigonometric identities, solving trigonometric equations, applications of trigonometric functions (laws of sines and cosines), inverse trigonometric functions, the polar coordinate system, and vectors. The algebra topics include translations and stretches of graphs, graphs of polynomial and rational functions, domain and range, even and odd functions, inverse functions, simplifying and factoring expressions, and equation solving. (Competency: Mathematics)

MATH 340   Calculus for Business and   3 Units
Economics

Prerequisite: MATH 120, 121, or 124 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 54 hours LEC

The content of this course includes review of the logarithmic and exponential functions, intuitive introduction to limits, development of the derivative, and definite integral and partial derivatives. Application of these concepts to economics and business will be emphasized. (C-ID MATH 140; Competency: Mathematics)

MATH 342   Modern Business Mathematics   3 Units

Prerequisite: MATH 120, 121, or 124 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b); CSU Area B4
Course Transferable to CSU
Hours: 54 hours LEC

This course is designed around applications of mathematics in economic and business contexts. Specific topics will include functions and related business formulas, tables and graphs, finance (interest, annuities, and exponential models in economics), rates of change including applications and optimization, and linear programming.

MATH 350   Calculus for the Life and   3 Units
Social Sciences I

Prerequisite: MATH 335 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 54 hours LEC

This course is an introduction to calculus. Topics include functions, trigonometric functions, limits, analytic geometry, and differential calculus with applications to biological and social sciences. This course is intended for students majoring in the biological and social sciences and some business majors.

MATH 351   Calculus for the Life and   3 Units
Social Sciences II

Prerequisite: MATH 350 with a grade of "C" or better
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 54 hours LEC

This course is a continuation of MATH 350. Topics include: definite and indefinite integrals, power series, analytic geometry, multivariate calculus, and differential equations, with applications to life and social sciences.

MATH 352   Calculus for Biology   2 Units
and Medicine

Prerequisite: MATH 351 with a grade of "C" or better or concurrent enrollment in MATH 351
General Education: AA/AS Area II(b); CSU Area B4
Course Transferable to UC/CSU
Hours: 36 hours LEC

This course, along with MATH 350 and MATH 351, completes the UC calculus sequence for some biology and medicine majors. The topics include solving first-order linear differential equations using integrating factors, equilibria and stability, matrices, eigenvalues and eigenvectors, analytic geometry, directional derivatives and gradient vectors, chain rule for functions of several variables, optimization and applications, theory, modeling and applications of linear and nonlinear systems of ordinary differential equations, permutations and combinations, probability, conditional probability, independence, and Bayes' formula and applications.

MATH 370   Pre-Calculus Mathematics   5 Units

Prerequisite: MATH 335 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 90 hours LEC

This course is designed to prepare students for MATH 400, 401, and 402. A brief review is followed by an in-depth extension of the properties of polynomial, rational, exponential, logarithmic, and trigonometric functions. Additional topics include inequalities, systems of non-linear equations, conic sections, sequences and series, analytic geometry, polar and parametric equations, and matrices. Graphing calculators may be required for this course.

MATH 400   Calculus I   5 Units
Prerequisite: MATH 370 with a grade of "C" or better, or placement through the assessment process.
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 90 hours LEC
This course explores the basic concepts of analytic geometry, limits (including indeterminate forms), derivatives, and integrals. The topics covered will include graphs, derivatives, and integrals of algebraic, trigonometric, exponential, logarithmic, and hyperbolic functions. Standard proofs will be covered, such as delta-epsilon proofs and proofs of some theorems. Applications will be covered, including those involving rectilinear motion, differentials, related rates, graphing, and optimization. (Competency: Mathematics)

MATH 401   Calculus II   5 Units
Prerequisite: MATH 400 with a grade of "C" or better
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 90 hours LEC
This course is a continuation of MATH 400. Topics covered will include techniques of integration, numerical integration, improper integrals, infinite series, parametric equations, polar coordinates, and possibly conic sections. Many applications will be covered including those involving areas between plane regions, volumes of revolution, work, moments and centers of mass, average value, arc length, and surface area. (C-ID MATH 220)

MATH 402   Calculus III   5 Units
Prerequisite: MATH 401 with a grade of "C" or better
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 90 hours LEC
This course extends the concepts of limits, derivatives, and integrals to vector-valued functions and functions of more than one variable. The topics covered include three-dimensional analytic geometry and vectors, partial derivatives, multiple integrals, line integrals, surface integrals, and the theorems of Green, Gauss (Divergence), and Stokes. Many applications of calculus are included. (Competency: Mathematics)

MATH 410   Introduction to Linear Algebra   3 Units
Prerequisite: MATH 401 with a grade of "C" or better
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 54 hours LEC
This course is an introductory course in linear algebra. Topics include matrices, determinants, systems of equations, vector spaces, linear transformations, eigenvectors, and applications. Proofs of elementary theorems of basic linear algebra will be covered. The course is intended for majors in mathematics, engineering, science, and related fields. (C-ID MATH 250; Competency: Mathematics)

MATH 420   Differential Equations   4 Units
Prerequisite: MATH 401 with a grade of "C" or better
General Education: AA/AS Area II(b); CSU Area B4; IGETC Area 2
Course Transferable to UC/CSU
Hours: 72 hours LEC
This course will cover the theory and applications of solutions to ordinary differential equations and systems of ordinary differential equations. Students will be introduced to various topics useful in the solution of these differential equations including power series, Laplace transforms, matrices, eigenvalues and eigenvectors, and numerical methods. (C-ID MATH 240)

MATH 494   Topics in Mathematics   .5-4 Units
Prerequisite: None.
Course Transferable to UC/CSU
Hours: 72 hours LEC
This course provides the ability to take a course in mathematics that covers topics that are not part of the regular curriculum. This course may only be taken once, even if course offerings cover different topics. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions

MATH 495   Independent Studies in   1-3 Units
**   Mathematics**
Prerequisite: None.
Course Transferable to CSU
Hours: 162 hours LAB
This is an independent studies course. The topics are to be arranged between the instructor and the student. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions

MATH 499   Experimental Offering in   .5-4 Units
**   Mathematics**
Prerequisite: None
Course Transferable to UC/CSU
Hours: 54 hours LEC
See Experimental Offering. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted toward the minimum 60 units required for admissions.