Mathematics (M)

Courses

M 065 Prealgeba
Credits: 4
Term: (F, S, Su based on sufficient demand)
Prerequisite: Qualifying placement score within the past 5 years
Basic concepts relating to fractions, decimals, ratios, proportions, percent, simple equations, topics of signed numbers, and 1-variable linear equations are offered as a review and/or preparation for further studies in mathematics.

M 088 Mathematical Literacy
Credits: 3
Term: (F, S, Su)
Prerequisite: Qualifying placement score within the past 5 years.
Intended for students pursuing majors requiring M 105. This course is not a prerequisite for M 090, M 095, or M 121. Students develop mathematical literacy through peer collaboration, problem solving, critical thinking, writing, and communicating mathematics. Students represent and solve relevant, real-world problems using various forms of numbers, equations, and graphs. Topics include proportional reasoning, algebra, introductory statistical formulas, geometry, and measurement.

M 090 Introductory Algebra
Credits: 3
Term: (F, S, Su)
Prerequisite: M 065 with a grade of B- or higher or qualifying placement score within the past 5 years
Introductory Algebra initiates development in students' ability to organize thought processes and systematically solve problems while preparing students for studies in other courses. Course emphasis includes manipulation of variables, exponential applications, introduction to and factoring of polynomials, solving equations, graphing lines, and creating linear models. This course is intended for students who have not studied algebra but have a firm background in basic mathematics or who wish it as a review.

M 094 PCE Non-Credit Math Course
CEUs: 6
Term: (Based on sufficient demand)
Non-credit professional and continuing education (PCE) courses offered to provide condensed coursework to meet the needs of working students and professionals. These courses are eligible for Continuing Education Units (CEUs) and are transcribed on the student's continuing education transcript.

M 095 Intermediate Algebra
Credits: 3
Term: (F, S, Su)
Prerequisite: M 090 with a grade of C- or higher, or a qualifying placement score within the past 5 years
This course offers a review of elementary algebra with further emphasis on factoring, rational expressions, radical expressions, complex numbers, quadratic equations, conic sections, and exponential and logarithmic functions.

M 105 Contemporary Mathematics
Credits: 3
Term: (F, S, Su)
Prerequisite: M 088 with a grade of C- or higher, M 090 with a grade of C- or higher, or a qualifying placement score within the past 5 years.
Core Class: Mathematics
An introduction to mathematical ideas and their impact on society.
Intended for students wishing to satisfy the general education mathematics requirement. Students completing M 105 cannot progress directly into M 121- please discuss options with your advisor.

M 111 Technical Mathematics
Credits: 3
Term: (F)
This course reviews the fundamental mathematical operations and explains their applications to the trades fields. Course topics will include: decimal and fraction operations and conversions, the metric and English systems of measurement, and basic geometry as applied to common shapes and forms. Reading and using various measurement tools, including standard metric rulers, tape measures, and the architect's and engineer's scales will also be covered. The course includes an introduction to the trig functions and their uses. The course will also include trades-specific projects.

M 120 Mathematics with Health Care Applications
Credits: 3
Term: (F, S)
Prerequisite: M 090 with a C- or higher, or qualifying placement score within the past 5 years.
This course is designed to provide students with a solid mathematical foundation necessary to succeed in a health care profession. This course will review algebra, systems of measurement, medication and syringe calculations, ratio and proportions, calculations for IV therapy, basic statistics, and Ionic solutions and pH calculations.

M 121 College Algebra
Credits: 3
Term: (F, S, Su)
Prerequisite: M 095 with a C- or higher or qualifying placement score within the past 5 years; a grade of 70% or better is required in each module of M 098 to satisfy the prerequisite for M 121
Core Class: Mathematics
This course presents concepts, principles and methods of college-level algebra. Topics to be covered include polynomial, rational, radical, exponential, and logarithmic functions and their graphs, and real and complex numbers.

M 130 Mathematics for Elementary Teachers I
Credits: 4
Term: (F)
Prerequisite: M 095 with a C- or higher or qualifying placement assessment score within the past 5 years; a grade of 70% or better is required in each module of M 098 to satisfy the prerequisite for M 130.
The topics included in this course are directly related to elementary mathematics education. The specific number topics included in this course include: numeral system, problem solving, set theory foundation of the real number system, arithmetic algorithms, statistics, probability, and algebra notations. The specific geometry topics include: plane and solid shape classification and properties, congruence, similarity, symmetry, trigonometry, measurement, and transformations.

M 131 Mathematics for Elementary Teachers II
Credits: 4
Term: (S)
Prerequisite: M 130 with a C- or higher
Credits: 4 Topics relevant to elementary mathematics education including algebra, statistics, and number theory. Focuses primarily on geometric concepts.

M 140 College Math for Healthcare
Credits: 3
Term: (F, S)
Prerequisite: M 095 with a C- or higher or C- or higher in all five modules of M098 or qualifying placement score within the past 5 years.
Core Class: Mathematics
This course is designed to provide students with a solid mathematical foundation necessary to succeed in a healthcare profession. This course will review algebra, systems of measurement, ratio and proportions, basic probability and statistics concepts, and Ionic solutions and pH calculations. This course will apply mathematical reasoning and problem solving as it applies to the healthcare field and is a suitable prerequisite for STAT 216.

M 151 Precalculus
Credits: 4
Term: (F based on sufficient demand, S)
Prerequisite: M 121 with a grade of C- or higher, or qualifying placement score within the past 5 years
Core Class: Mathematics
This course prepares students for calculus. It covers polynomial, rational, exponential, logarithmic and trigonometric functions from an algebraic and a graphical perspective including solving related equations, inequalities and applications. Inverse functions, conics, polar coordinates and equations, parametric equations, and trigonometric laws and identities will also be covered.

M 171 Calculus I
Credits: 4
Term: (F, S based on sufficient demand)
Prerequisites: M 151 with grade of C- or higher, or qualifying placement score within the past 5 years
Core Class: Mathematics
Functions, elementary transcendental functions, limits and continuity, differentiation, applications of the derivative, and curve sketching studied.

M 172 Calculus II
Credits: 4
Term: (F)
Prerequisite: M 171 with a grade of C- or higher
Core Class: Mathematics
Integration theory, methods of integration, applications of the integral, Taylor's theorem, infinite sequences, and series are studied.

M 273 Multivariable Calculus
Credits: 4
Term: (S)
Prerequisite: M 172 with a grade of C- or higher
Core Class: Mathematics
Topics in two and three dimensional geometry. Manipulation and application of vectors. Functions of several variables, contour maps, graphs, partial derivatives, gradients, double and triple integration, vector fields, line integrals, surface integrals, Green's Theorem, Stokes' Theorem, and the Divergence Theorem.

M 274 Introduction to Differential Equations
Credits: 4
Term: (S based on sufficient demand)
Prerequisites: M 172 with a grade of C- or higher
An introduction to qualitative, quantitative, and numerical methods for ordinary differential equations. Topics include modeling via differential equations, linear and nonlinear first order differential equations and systems, elementary phase plane analysis, forced oscillations, and Laplace transform techniques.