MAED & MATH Courses (Mathematics Education and Mathematics)

MAED Courses (Mathematics Education)

The first number is course level (1 = freshman, 2 = sophomore, 3 = junior, 4 = senior, 5 = graduate.
The middle two numbers are identifiers specific to the course
The last number is the number of credit hours

MAED 2243 Fundamental Geometric Concepts
3 credits: 3 hours lecture
Prerequisite: MATH 1043 with a grade "C" or above
NOTE: This course cannot be used to satisfy General Education requirements or for credit toward a Mathematics major or minor.
Topics in plane and solid geometry appropriate for elementary and middle school including measurement, construction, and the use of manipulatives and technology.

MAED 3553 Number Systems
3 credits: 3 hours lecture
Prerequisite: MATH 1043 with a grade of "C" or above
NOTE: This course may not be used to satisfy General Education requirements or for credit toward a Mathematics major or minor.
Development of real number system and basic concepts of probability and statistics.

MAED 3563 Geometric Investigations
3 credits: 3 hours lecture
Prerequisites: MATH 1003 and MATH 1043 with a grade of "C" or above in each
NOTE: This course cannot be used to satisfy General Education requirements or for credit toward a mathematics major or minor.
Activities leading to the development of conjectures of important elementary geometry theorems and to an understanding of some fundamental concepts of measurement.

MAED 4663 Methods of Teaching Mathematics
3 credits: 3 hours lecture
Corequisite: MATH 3423
Methods and strategies of mathematics instruction at the secondary level.

MATH Courses (Mathematics)

The first number is course level (1 = freshman, 2 = sophomore, 3 = junior, 4 = senior, 5 = graduate.
Three digit numbers, or numbers that begin with zero are remedial courses, and do not count toward graduation
The middle two numbers are identifiers specific to the course
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NOTES:
1. Students whose ACT mathematics scores fall below 19 will be assigned to a developmental mathematics course
2. Students must receive a grade of "C" or above to satisfy the prerequisite for a mathematics course.
3. Students receiving a grade of "C" or above in any mathematics course will not be permitted to enroll for credit in any course which is a prerequisite.

4. Students who wish to enroll more than three times in a specific mathematics course other than MATH 143, Introduction to Algebra, must repeat the prerequisite for the course. Exceptions to this must be approved by the Mathematics Review Committee.

MATH 143 Introduction to Algebra
3 credits: 3 hours lecture
A review of basic arithmetic operations and algebraic operations. Topics covered include the arithmetic of fractions and decimals, algebraic manipulations of polynomials, linear equations, and factoring. This course cannot be used to satisfy General Education requirements or for credit toward a Mathematics major or minor.

MATH 183 Intermediate Algebra
3 credits: 3 hours lecture
Prerequisite: MATH 143 or satisfactory performance on a placement test
This course is designed to prepare students to take a college level mathematics course. Topics covered will include factoring, exponents, solution of linear and quadratic equations, arithmetic of rational expressions, basic algebraic applications, and graphing. This course cannot be used to satisfy General Education requirements or for credit toward a Mathematics major or minor.

MATH 1003 Survey of Mathematics
A.C.T.S. Equivalent Course # MATH 1003
3 credits: 3 hours lecture
Prerequisite: MATH 183 or satisfactory performance on a placement test
NOTE: This course cannot be used for credit toward a Mathematics major or minor.
Techniques of problem solving, topics from set theory, number theory, logic, consumer mathematics, and probability and statistics.

MATH 1033 Trigonometry
A.C.T.S. Equivalent Course # MATH 1203
3 credits: 3 hours lecture
Corequisite: MATH 1043
Definition of the trigonometric functions, solution of right and oblique triangles, trigonometric equations, and identities.

MATH 1043 College Algebra
A.C.T.S. Equivalent Course # MATH 1103
3 credits: 3 hours lecture
Prerequisite: MATH 183 or satisfactory performance on a placement test
Functions, graphs, quadratic functions, polynomial functions, rational functions, exponential and logarithmic functions, systems of equations, applications of algebra, matrices, and the bionomial theorem.

MATH 1073 Compact Calculus
A.C.T.S. Equivalent Course # MATH 2203
3 credits: 3 hours lecture
Prerequisite: MATH 1175 or MATH 1043
NOTE: For those not planning to take MATH 2254: this course cannot be used for credit toward a Mathematics major or minor.
Limits, continuous functions, the derivative and integral with applications.

MATH 1175 Precalculus
A.C.T.S. Equivalent Course # MATH 1305
5 credits: 5 hours lecture
Prerequisite: A score of 22 or higher on the Math ACT or MATH 183 with a grade of "B" or higher
Provides the necessary background for students planning to take Calculus I or Compact Calculus. Topics include: problem solving; polynomial, rational, exponential, logarithmic, and trigonometric functions; parametric equations; and, as time permits, linear systems. Preferred prerequisite for students planning to take calculus. Offered: Fall.

MATH 2255 Calculus I
A.C.T.S. Equivalent Course # MATH 2405
5 credits: 5 hours lecture
Prerequisites: MATH 1175 or MATH 1033 and MATH 1043
Limits, derivatives, rates of change, integrals, and applications of both integrals and integrals.

MATH 3233 History of Mathematics
3 credits: 3 hours lecture
Prerequisite: MATH 2255
The history of mathematics as concerned with the origins, philosophy, and development of the mathematical sciences. The chronological development of mathematics from its use in primitive cultures to the present day. Spring offering in odd-numbered years.

MATH 3403 Probability and Statistics
3 credits: 3 hours lecture
Prerequisite: MATH 2255
Finite sample spaces, counting techniques, distributions, measures of variability, sampling theory, curve fitting, and regression analysis. Fall offering in odd-numbered years.

MATH 3413 Number Theory
3 credits: 3 hours lecture
Prerequisite: MATH 2255
Basic properties of number system, congruences, divisibility, and prime numbers. Offered: Fall, even-numbered years.

MATH 3423 College Geometry
3 credits: 3 hours lecture
Prerequisite: MATH 2255
Logic and Euclidean geometry. Required of all prospective secondary mathematics teachers. Fall offering in even-numbered years.

MATH 3453 Abstract Algebra
3 credits: 3 hours lecture
Prerequisite: MATH 2255
An introduction to the study of algebraic structures including groups, rings, and fields. Offered: Spring, even-numbered years.

MATH 3463 Linear Algebra
3 credits: 3 hours lecture
Prerequisite: MATH 2255
The algebra of finite dimensional vector spaces, linear transformations, eigenvalues, and eigenvectors. Spring offering in odd-numbered years.

MATH 3483 Mathematical Modeling
3 credits: 3 hours lecture
Prerequisites: MATH 3495 and a programming course
A study of selected topics which demonstrate the interaction of mathematics with real-world problems.

MATH 3495 Calculus II
5 credits: 5 hours lecture
Prerequisite: MATH 2255
Applications of integrals, sequences, series, and vector analysis.

MATH 3513 Discrete Mathematics
3 credits: 3 hours lecture
Prerequisite: MATH 2255
Algorithms, elements of graph theory, Boolean algebra, and combinatorics.

MATH 3543 Calculus III
3 credits: 3 hours lecture
Prerequisite: MATH 3495
Functions or more than one variable, multiple integrals, vector calculus.

MATH 4453 Differential Equations
3 credits: 3 hours lecture
Prerequisite: MATH 3495
First-order differential equations, linear differential equations, Euler's method, separation of variables, exact differential equations and Laplace transforms.

MATH 465V Mathematics Reading and Research
Variable credit
Prerequisites: junior or senior standing and permission of the School Dean

MATH 4711 Mathematics Seminar
1 credit: 1 hour lecture
Prerequisite: junior or senior mathematics major or minor
Students give oral and written presentations based on laboratory and/or library research. This course may be repeated for a maximum of two credit hours.

MATH 479V Independent Study in Mathematics
Variable credit
Consult the Independent Study Courses subheading in the Academic Regulations section of this catalog for prerequisites and description.