MATHEMATICS

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Location: Faculty Office Building E-2
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The Department of Mathematics offers undergraduate majors in Mathematics (BA or BS) and Adolescence Education: Mathematics (BA or BS) as well as Mathematics concentrations in Early Childhood & Childhood Education (BS) and Early Childhood Studies (BS). Also available is an accelerated BS Mathematics/MAT Adolescence Education: Mathematics program through which students may earn bachelor's and master's degrees in five years.

Graduates with the Mathematics major go on to do graduate work in mathematics and other fields requiring strong quantitative and reasoning skills. Those graduating from the Adolescence Education program have a depth of knowledge that underlies the courses they will teach. Early Childhood & Childhood Education majors go on to become mathematics specialists within the primary schools. (See Adolescence Education and Early Childhood & Childhood Education for details about these programs.) Minors in Mathematics and Applied Mathematics are also offered.

Those interested in any of these programs are invited to request a faculty advisor in the Department of Mathematics. Upon completion of MAT251 Calculus I *or* MAT252 Calculus II with a grade of B- or better, a student may declare the Mathematics or Adolescence Education: Mathematics major. To declare the Mathematics concentrations in Early Childhood & Childhood Education or Early Childhood Studies, students must complete MAT251 Calculus I with a grade of C- or better. A letter grade of at least C- is required to count a course toward any mathematics major or as a prerequisite for another mathematics course.

Math Placement Levels (MPLs): All incoming first-year students will receive a Math Placement Level (MPL) based on their ALEKS PPL assessment. All incoming transfer students will receive a Math Placement Level (MPL) as part of the admission process. The transfer student MPL is determined by previously taken mathematics courses and, if applicable, standardized test scores including New York State Regents exams and SAT/ACT exams. Students will be notified of their MPL at their freshman or transfer orientation session. Math prerequisites are strictly enforced at SUNY New Paltz. Current students can raise their MPL by earning C- or better in specific math courses. See the table below for more detailed information.

Summary of Math Placement Levels and What They Mean:

ALEKS % score	Will assign an MPL of:	Math courses you are eligible to take[1] (those with a prerequisite less than or equal to your MPL)
0-45	2	MAT120 College Mathematics - recommended if majoring in the liberal or fine arts MAT121 College Mathematics with Supplemental Algebra Workshop - recommended if majoring in math, science, engineering or business COURSES AT THIS LEVEL DO NOT MEET GE OR MAJOR REQUIREMENTS BUT DO RAISE MPL TO 3.
46-60	3	MAT152 College Algebra - recommended if going on in math. A grade of C- or better will raise the MPL to 4. MAT140 Mathematics for Elementary School Teachers I / MAT240 Mathematics for Elementary School Teachers II - for Early Childhood & Childhood Education students only MAT142 Paths & Graphs, MAT143 Mathematics in the Modern World, MAT145 Statistics & Public Policy ANY OF THESE COURSES WILL MEET THE GE MATH REQUIREMENT.
61-79	4	MAT171 Mathematical Methods for Business - for business majors only MAT181 Precalculus - A grade of C- or better will raise the MPL to 5. MAT241 Introduction to Statistics
80-100	5	MAT251 Calculus I - A grade of C- or better will raise the MPL to 6. MAT260 Introduction to Proof

[1] Always consult your advisor to choose course(s) since many majors have specific requirements for mathematics.
Students can raise their MPL by earning C- or better in the math courses identified above.

Mathematics (BA, BS) Program Learning Outcomes

Students who successfully complete the Mathematics major will be able to:

- Reliably perform numeric and symbolic computations [computation].
- Construct and apply standard symbolic and graphical representations of mathematical objects [representation].
- Estimate, approximate, and check results for reasonableness [estimation].
- Construct appropriate mathematical models for read-world problems [modeling].
- Communicate mathematical content orally and in writing with proficiency [communication].
- Read and comprehend a mathematical argument, identifying any flaws in its reasoning [comprehension].
- State and apply mathematical definitions and theorems [definitions].
- Write formal mathematical proofs [proving].
- Use abstraction and generalization to make, test, and revise mathematical hypotheses [hypothesizing].
- Apply their mathematical knowledge to a novel situation [novelty].
- Think independently and creatively [independence].
- Use techniques from different fields of mathematics [breadth].

- Major in Mathematics
- Minor in Mathematics
- Minor in Applied Mathematics

MAT053. College Algebra A. 0 Credits.

Review. Linear and quadratic equations. Inequalities. Factoring, multiplying and dividing algebraic expressions. Coordinate geometry. Together, this course and MAT 153 College Algebra B are equivalent to MAT152 College Algebra.
May not be repeated for credit

MAT093. Math Selected Topic. 12 Credits.

Restrictions:
- Must have the following level: Undergraduate

May be repeated for credit

MAT120. College Mathematics. 3 Credits.

Topics from basic and intermediate algebra are reviewed. Emphasis is on using algebra to solve real world problems from such areas as geometry, finance, business, and science. The concepts of variable and function and the use of formulas will be stressed. Problems will be presented in various formats; graphically, numerically, and symbolically. NOTE: Not to be taken for credit by students with MPL 4 or more.

Attributes:
- Initial College Level Math
- Liberal Arts

Restrictions:
- Must have the following level: Undergraduate

May not be repeated for credit

MAT121. College Mathematics with Supplemental Algebra Workshop. 3 Credits.

Topics from basic and intermediate algebra, with an emphasis on solving real world problems. The concepts of variable and function and the use of formulas will be stressed. This course is similar to MAT120 College Mathematics, but is specifically designed to prepare students to take MAT152 College Algebra. Additional time will be devoted to algebra skills. NOTE: Not to be taken for credit by students with MPL 4 or more.

Attributes:
- Liberal Arts

May not be repeated for credit

MAT140. Mathematics for Elementary School Teachers I. 3 Credits.

First course of a two-semester sequence. Covers problem solving, numeration, number theory, relations, functions, integers, rational and real numbers. Open only to students seeking New York State certification in Elementary Education.

Attributes:
- Liberal Arts

Prerequisites:
- Math Placement Level Minimum Score of 3 or MAT 151 Minimum Grade of C- or MAT120 Minimum Grade of C- or MAT093 Minimum Grade of C- or MAT121 Minimum Grade of C-

May not be repeated for credit

MAT142. Paths and Graphs. 3 Credits.

Designed for visual learners in Liberal and Fine Arts majors. Problems that arise in scheduling, routing and management will be solved by translating them into problems about graphs and then utilizing techniques of elementary graph theory. Fulfills GE Math; not part of any Math major.

Attributes:
- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:
- Math Placement Level Minimum Score of 3 or MAT 151 Minimum Grade of C- or MAT093 Minimum Grade of C- or MAT120 Minimum Grade of C- or MAT121 Minimum Grade of C-

May not be repeated for credit

MAT143. Mathematics in the Modern World. 3 Credits.

Designed for non-science majors. Basic mathematical concepts are applied to analyze real world problems in a broad range of fields. Topics may include voting systems, fair division, interpreting statistics, scheduling, routing, linear programming, coding, game theory, patterns and symmetry. Fulfills GE Math; not part of any Math major.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Restrictions:

- Must have the following level: Undergraduate

Prerequisites:

- Math Placement Level Minimum Score of 3 or MAT 151 Minimum Grade of C- or MAT120 Minimum Grade of C- or MAT093 Minimum Grade of C- or MAT121 Minimum Grade of C-

May not be repeated for credit

MAT145. Statistics and Public Policy. 3 Credits.

Fundamental concepts of statistics with an applied approach designed to create savvy "statistical consumers", able to understand, evaluate, and analyze quantitative evidence presented in the media on issues relevant to citizens in our society today. Intended for General Education; not part of any Math major.

Attributes:

- Information Literacy (GE3)
- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:

- Math Placement Level Minimum Score of 3 or MAT 151 Minimum Grade of C- or MAT120 Minimum Grade of C- or MAT093 Minimum Grade of C- or MAT121 Minimum Grade of C-

May not be repeated for credit

MAT152. College Algebra. 3 Credits.

Factoring, multiplying and dividing algebraic expressions, coordinate geometry, functions and functional notation, polynomials, exponents, logarithms, and inequalities. Primarily preparation for more advanced courses, but also open to students desiring a background in college algebra. NOTE: Not to be taken for credit by students with MPL 4 or more.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:

- Math Placement Level Minimum Score of 3 or MAT120 Minimum Grade of C- or MAT121 Minimum Grade of C-

May not be repeated for credit

MAT171. Mathematical Methods for Business. 3 Credits.

Linear equations and inequalities, functions and graphs, the exponential and logarithmic functions, the mathematics of finance, graphs and rates of change, tabular and graphical analysis, systems of linear equations. NOTE: Not to be taken for credit by students intending to take MAT251 (Calculus I).

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Restrictions:

- Must have the following level: Undergraduate
- Must be enrolled in the following field(s) of study (major, minor or concentration):
- - Accounting (542)
  - Business (BUS)
  - Business Analytics (531)
  - Economics (540)
  - Economics (ECO)
  - Entrepreneurship (524)
  - Finance (543)
  - General Business (547)
  - International Business (546)
  - Management (544)
  - Marketing (545)
  - Undeclared:Business (000B)
  - Undeclared:Pre-Accounting (00AC)
  - Undeclared:Pre-Bus Analytics (00BN)
  - Undeclared:Pre-Entrepreneurshi (00ER)
  - Undeclared:Pre-Finance (00FI)
  - Undeclared:Pre-Gen Business (00GB)
  - Undeclared:Pre-Interntnl Bus (00IB)
  - Undeclared:Pre-Management (00MG)
  - Undeclared:Pre-Marketing (00MK)

Prerequisites:

- Math Placement Level Minimum Score of 4 or MAT152 Minimum Grade of C- or MAT 153 Minimum Grade of C-

May not be repeated for credit

MAT181. Precalculus. 4 Credits.

Topics needed for calculus: brief review of algebra; polynomial, exponential, logarithmic and trigonometric functions; trigonometry; remainder and factor theorems; complex numbers; solving exponential equations, logarithmic equations and trigonometric equations.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:

- Math Placement Level Minimum Score of 4 or MAT152 Minimum Grade of C- or MAT193 Minimum Grade of C- or MAT 153 Minimum Grade of C-

May not be repeated for credit

MAT184. Elements of Geometry. 3 Credits.

Topics chosen from history of geometry, axioms for Euclidean geometry and geometric proof, practical applications of geometry, solid geometry, polygons and tessellations of the plane. Intended for General Education; not part of any Math major.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:

- Math Placement Level Minimum Score of 3 or MAT 151 Minimum Grade of C- or MAT093 Minimum Grade of C- or MAT120 Minimum Grade of C- or MAT121 Minimum Grade of C-

May not be repeated for credit

MAT193. Math Selected Topic. 3-12 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.

May be repeated for credit

MAT240. Mathematics for Elementary School Teachers II. 3 Credits.

Second course of a two-semester sequence. Covers problem solving, logic, probability, statistics, analysis of geometric shapes and solids, measurement, congruence, similarity, constructions, coordinate geometry, and transformations. Open only to students seeking New York State certification in Elementary Education.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:

- MAT140 Minimum Grade of C-
- Math Placement Level Minimum Score of 3 or MAT 151 Minimum Grade of C- or MAT093 Minimum Grade of C- or MAT121 Minimum Grade of C- or MAT120 Minimum Grade of C-

May not be repeated for credit

MAT241. Introduction to Statistics. 3 Credits.

Descriptive statistics, measure of central tendency and dispersion, population parameters and sample statistics, use of probability distributions for statistical inference, binomial and normal distributions, introduction to hypothesis testing. Designed for non-mathematics majors. Not open to students who have taken MAT381 or MAT382.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics
- Systematic Inquiry

Prerequisites:

- Math Placement Level Minimum Score of 4 or MAT152 Minimum Grade of C- or MAT193 Minimum Grade of C- or MAT 153 Minimum Grade of C-

May not be repeated for credit

MAT251. Calculus I. 4 Credits.

Single-variable calculus: limits, continuity, derivatives, extrema and other applications, mean value theorem, integrals, fundamental theorem of calculus.

Attributes:

- Liberal Arts
- GE3: MATH
- GE4: Mathematics
- GE5: Mathematics

Prerequisites:

- Math Placement Level Minimum Score of 5 or MAT181 Minimum Grade of C-

May not be repeated for credit

MAT252. Calculus II. 4 Credits.

A continuation of Calculus I. Techniques of integration, applications of the integral, infinite sequences and series, parametric equations, polar coordinates.

Attributes:

- Liberal Arts

Prerequisites:

- Math Placement Level Minimum Score of 6 or MAT251 Minimum Grade of C-

May not be repeated for credit

MAT260. Introduction to Proof. 3 Credits.

Focus on basic principles of logic, set theory, functions, and the development of mathematical reasoning. Introduction to basic techniques in writing proofs.

Attributes:

- Critical Thinking Introductory
- Critical Think Reason Intro
- Liberal Arts

Prerequisites:

- Math Placement Level Minimum Score of 6 or MAT251 Minimum Grade of C-

May not be repeated for credit

MAT293. Math Selected Topic. 3-12 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.
May be repeated for credit

MAT295. Indep Study Math. 12 Credits.

May be repeated for credit

MAT303. Foundations of Analysis. 3 Credits.

Order, algebraic and completeness axioms of the numbers, topology of the real line, lubs and glbs, limit points, Heine-Borel Theorem, sequences and convergence.

Attributes:

- Critical Thinking Intermediate
- Critical Think Reason Interm
- Information Literacy Intermed
- Information Mgmt Intrmd
- Liberal Arts
- Writing Intensive

Prerequisites:

- MAT252 Minimum Grade of C-
- MAT260 Minimum Grade of B- or MAT304 Minimum Grade of C-

May not be repeated for credit

MAT304. Foundations of Algebra. 3 Credits.

Equivalence relations, elementary number theory, mathematical induction and recursion; the group of integers modulo-n and other concrete groups.

Attributes:

- Liberal Arts

Restrictions:

- Must have the following level: Undergraduate

Prerequisites:

- MAT260 Minimum Grade of C-
- MAT252 Minimum Grade of C-

May not be repeated for credit

MAT310. Number Theory. 3 Credits.

Introductory study of integers. Axiomatic approach to order and divisibility property, prime distributions, modular arithmetics, perfect numbers and other topics.

Attributes:

- Liberal Arts
- Writing Intensive

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT304 Minimum Grade of C-

May not be repeated for credit

MAT320. Discrete Mathematics for Computing. 3 Credits.

This course is designed to provide Computer Science and Computer Engineering majors with a working knowledge of discrete mathematics topics they will need in future courses and in later work. Does not count towards the Mathematics major.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following field(s) of study (major, minor or concentration): Mathematics (512)

Prerequisites:

- EGC220 Minimum Grade of C- or EGC 230 Minimum Grade of C- or CPS310 Minimum Grade of C-

May not be repeated for credit

MAT331. Axiomatic Geometry. 3 Credits.

Axiomatic development of geometry from a modern standpoint. Topics chosen from incidence, betweenness, congruence, similarity, transformations, constructions; measure of areas, angles and circles.

Attributes:

- Liberal Arts

Prerequisites:

- Math Placement Level Minimum Score of 6 or MAT251 Minimum Grade of C-

May not be repeated for credit

MAT332. Modern Geometry. 3 Credits.

Euclidean and non-Euclidean geometries. Consistency proofs and Euclidean constructions.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT331 Minimum Grade of C-

May not be repeated for credit

MAT341. Applied Mathematics I. 3 Credits.

The first of two-semester sequence for mathematicians, scientists and engineers. Topics include partial derivatives, ordinary differential equations, infinite series, and matrix algebra. Credit will not be given for both MAT341 and MAT359.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman
- Must not be enrolled in the following field(s) of study (major, minor or concentration): Mathematics (512)

Prerequisites:

- MAT252 Minimum Grade of C-

May not be repeated for credit

MAT342. Applied Mathematics II. 3 Credits.

The second of a two-semester sequence in advanced mathematics for scientists and engineers. Topics include Fourier series and transforms, partial differential equations and special functions of mathematical physics. Counts as an upper-division elective in the Mathematics major.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT341 Minimum Grade of C- or (MAT359 Minimum Grade of C- and MAT362 Minimum Grade of C-)

May not be repeated for credit

MAT353. Calculus III. 4 Credits.

Analytic geometry in 3 dimensions, vector-valued functions, multivariate functions, partial derivatives, multiple integrals, applications, line integrals, Green's theorem, divergence, curl, Stokes' theorem.

Attributes:

- Liberal Arts

Prerequisites:

- MAT252 Minimum Grade of C-

May not be repeated for credit

MAT354. Calculus IV. 3 Credits.

Fourth semester covering differential and integral calculus. Emphasizes line and surface integral theorems, sequences, and series.

Attributes:

- Liberal Arts

Prerequisites:

- MAT353 Minimum Grade of C-

May not be repeated for credit

MAT359. Ordinary Differential Equations. 3 Credits.

Methods of solution of homogeneous and non-homogeneous linear differential equations. Power series and Laplace transform methods. Non-linear equations of order one. Applications. Credit will not be given for both MAT341 and MAT359.

Attributes:

- Liberal Arts

Prerequisites:

- MAT252 Minimum Grade of C-

May not be repeated for credit

MAT362. Linear Algebra. 3 Credits.

Systems of linear equations, matrices, determinants, eigenvalues, eigenvectors, finite dimensional vector spaces and linear transformations.

Attributes:

- Liberal Arts

Prerequisites:

- MAT251 Minimum Grade of C-

May not be repeated for credit

MAT363. Combinatorics. 3 Credits.

Counting arguments in different settings and their relation to probability. Functions, relations and, in particular, graphs and trees.

Attributes:

- Liberal Arts

Prerequisites:

- MAT260 Minimum Grade of C-

May not be repeated for credit

MAT366. Nonlinear Dynamics. 3 Credits.

A study of systems where the change of the output is not proportional to the change of the input. In the real world, systems are typically nonlinear.

Attributes:

- Liberal Arts

Restrictions:

- Must have the following level: Undergraduate
- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT341 Minimum Grade of C- or MAT359 Minimum Grade of C-

May not be repeated for credit

MAT375. Numerical Methods. 3 Credits.

Computer solution of mathematical problems; round-off errors and computer arithmetic, solution of equations, interpolation and approximation, numerical differentiation and integration, direct and iterative techniques in matrix algebra.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT362 Minimum Grade of C-
- CPS210 Minimum Grade of C-

May not be repeated for credit

MAT380. Applied Probability and Statistics. 3 Credits.

This course will provide students with an understanding of the principles of engineering data analysis using basic probability theorems and statistical methods with emphasis on their application to real-world data processing problems.

Attributes:

- Liberal Arts

Restrictions:

- Must have the following level: Undergraduate
- Must be enrolled in the following field(s) of study (major, minor or concentration):
  - Computer Engineering (518)
  - Electrical Engineering (517)
  - Mechanical Engineering (521)

Prerequisites:

- MAT252 Minimum Grade of C-

May not be repeated for credit

MAT381. Probability and Statistics I. 3 Credits.

Counting techniques, conditional probability, Bayes' theorem, discrete and continuous random variables, distribution functions, expected value, joint distributions, limit theorems, sampling distributions and hypothesis testing.

Attributes:

- Liberal Arts

Prerequisites:

- MAT252 Minimum Grade of C-

May not be repeated for credit

MAT382. Probability and Statistics II. 3 Credits.

Introduction to probability theory and statistics. Random variables; distribution functions; expected value and moments; sampling; point estimation; interval estimation; hypothesis testing.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT381 Minimum Grade of C-
- MAT353 Minimum Grade of C-

May not be repeated for credit

MAT393. Math Selected Topic. 3-12 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.

Restrictions:

- Must not be enrolled in the following class: Freshman

May be repeated for credit

MAT399. Modular Course. 0 Credits.

Restrictions:

- Must not be enrolled in the following class: Freshman

May be repeated for credit

MAT431. Real Analysis I. 3 Credits.

Theoretical foundations of elementary calculus: continuity, derivatives, integrals, classical theorems of calculus such as the Mean Value theorem and the Fundamental Theorem of calculus.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT303 Minimum Grade of C-
- MAT353 Minimum Grade of C-

May not be repeated for credit

MAT432. Real Analysis II. 3 Credits.

Series of real numbers; sequences and series of functions; uniform convergence; power series; Taylor Series, additional topics as chosen by the instructor.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT 321 Minimum Grade of C- or MAT431 Minimum Grade of C-

May not be repeated for credit

MAT441. Abstract Algebra I. 3 Credits.

Group theory from axioms;subgroups, cyclic groups, number theoretic properties of finite groups, quotient groups, isomorphisms and homomorphisms.

Attributes:

- Critical Thinking Advanced
- Critical Think Reasoning Adv
- Information Literacy Advanced
- Information Mgmt Advanced
- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT304 Minimum Grade of C-
- MAT362 Minimum Grade of C-

May not be repeated for credit

MAT442. Abstract Algebra II. 3 Credits.

Elementary theory of groups and rings, integral domains and fields.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT441 Minimum Grade of C- or MAT 364 Minimum Grade of C-

May not be repeated for credit

MAT483. Actuarial Mathematics. 3 Credits.

Theories and models of risk, and their applications. Topics may include: annuities, insurance, benefit reserves, multiple life functions, multiple decrement models, and collective risk models.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT381 Minimum Grade of C-

May not be repeated for credit

MAT488. Partial Differential Equations. 3 Credits.

Classification of linear second order partial differential equations (PDE), diffusion-type problems, Fourier sine and cosine transforms. Laplace transform solutions, method of characteristics, elliptic-type problems, Green's functions, numerical and approximate methods.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

Prerequisites:

- MAT359 Minimum Grade of C-

May not be repeated for credit

MAT490. Research in Mathematics. 1-12 Credits.

Individual research in Mathematics under faculty supervision. Interested students should contact the department or approach a particular professor.

Restrictions:

- Must have the following level: Undergraduate
- Must not be enrolled in the following class: Freshman

May be repeated for credit

MAT493. Math Selected Topic. 1-12 Credits.

Selected topics courses are regularly scheduled courses that focus on a particular topic of interest. Descriptions are printed in the Schedule of Classes each semester. Selected topics courses may be used as elective credit and may be repeated for credit, provided that the topic of the course changes.

Restrictions:

- Must not be enrolled in the following class: Freshman

May be repeated for credit

MAT494. Fieldwork in Mathematics. 1-12 Credits.

Individual research in Mathematics under faculty supervision. Interested students should contact the department or approach a particular professor.

Restrictions:

- Must not be enrolled in the following class: Freshman

May be repeated for credit

MAT495. Indep Study Math. 1-12 Credits.

Attributes:

- Liberal Arts

Restrictions:

- Must not be enrolled in the following class: Freshman

May be repeated for credit

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