MATHEMATICS & STATISTICS - MAT

MAT 500 Topics in Applied Mathematics **4 Credits**
This course provides a brief overview of the basic tools from Linear Algebra and Multivariable calculus, with particular attention given to topics that are needed in Data Science. To facilitate students' understanding of the concepts, rigor and proofs will be de-emphasized while numerous examples will be discussed, including the use of computer software like MATLAB.
Prerequisites: One semester of Calculus (MAT 111 or MAT 115 at Canisius, or equivalent).
Offered: every summer.

MAT 519 Linear Algebra **4 Credits**
Vector spaces and inner product spaces. Linear transformations and matrices. Eigenvectors, eigenvalues, and applications. Orthogonal transformations. Quadratic forms and quadric surfaces.
Prerequisite: By permission of the instructor.
Offered: every spring.

MAT 551 Probability & Statistics I **3 Credits**
Introduction to the mathematical aspects of modern probability theory and the theory of statistics.
Prerequisite: By permission of the instructor.
Offered: every spring.

MAT 591 Discrete Mathematics **3 Credits**
Fundamental topics with computer science applications. Sets and logic, propositional and predicate calculus, elements of combinatorics and counting, elementary discrete probability, functions and relations, and graphs.
Offered: every fall.