

Graduate International Pathway: Mathematics Education track

Course Options

- **MAT 5023. Problem-Solving Seminar. (3-0) 3 Credit Hours.**
 - **Course description:** Students will have the opportunity to engage in extensive experience and practice in solving mathematical problems.
 - **Semester Available:** Summer

- **MAT 5033. Foundations and Fundamental Concepts of Mathematics. (3-0) 3 Credit Hours.**
 - **Course description:** Topics include the study of mathematics in antiquity as an empirical science, the shift from inductive reasoning to axiomatic structures, the development of geometry in the plane and 3-space, the discovery of analysis, the emergence of axiomatic systems, and the focus on algebraic structures. This course may not be applied to the Master of Science degree in Mathematics without approval of the Graduate Advisor of Record and the Graduate Review Committee.
 - **Semester Available:** Fall

- **MAT 5043. Euclidean and Non-Euclidean Geometry. (3-0) 3 Credit Hours.**
 - **Course description:** Topics will be selected from advanced Euclidean and non-Euclidean geometry, solid analytic geometry, and differential geometry.
 - **Semester Available:** Spring

- **MAT 5103. Introduction to Mathematical Analysis. (3-0) 3 Credit Hours.**
 - **Course description:** Prerequisite: MAT 4213 or consent of instructor. Axiomatic construction of the reals, metric spaces, continuous functions, differentiation and integration, partial derivatives, and multiple integration. This course may not be applied to the Master of Science degree in Mathematics. (Credit cannot be earned for both MAT 5103 and MAT 5203.)
 - **Semester Available:** Spring

- **MAT 5283. Linear Algebra. (3-0) 3 Credit Hours.**
 - **Course description:** Prerequisite: MAT 2233 or an equivalent. A study of linear algebraic structures that may include linear transformations, inner product spaces, eigenvalues, Cayley-Hamilton theorem, similarity, the Jordan canonical form, spectral theorem for normal transformation and applications.
 - **Semester Available:** Fall and Spring

- **MAT 5963. Introduction to Mathematics Education Research. (3-0) 3 Credit Hours.**
 - **Course description:** Prerequisite: Consent of instructor. An introduction to important research and findings in mathematics education. Students will gain experience with interpreting education research and translating it into practice. Students will work on projects designed to help them investigate their own teaching practice. Topics include: mathematical learning theories, philosophical perspectives of mathematics, explorations of mathematical content, and research on student learning.
 - **Semester Available:** Fall

