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Mathematics (MATH)

MATH 608. History and Philosophy of Mathematics for Teachers. 3 Credits.
Current and prospective teachers will broaden and deepen their understanding of the historical context and overarching philosophies that underlie mathematics. While tracing the historical development of mathematics, students will be exposed to fundamental principles of mathematics, especially logic and proof, with an emphasis on heuristic models of problem-solving applied to a variety of mathematical topics. Content will include discrete mathematics topics, such as set theory, combinatorics, mathematical induction, and relations.
Typically Offered: Spring, odd years.

MATH 613. Algebra for Teachers. 3 Credits.
Current and prospective teachers will broaden and deepen their understanding of algebraic concepts and pedagogy to better engage high school students in the problem-solving processes and applications of algebra. The course will cover functions (polynomial, rational, trigonometric, exponential, & logarithmic), including transformations and compositions; fitting models to data; sequences and series; number systems and proof; and vector spaces. The course will emphasize appropriate technology used to teach the content with the aim of achieving proficiency within related secondary school math standards.
Typically Offered: Fall, odd years.

MATH 614. Geometry for Teachers. 3 Credits.
Current and prospective teachers will broaden and deepen their understanding of geometry concepts and pedagogy to better engage high school students in the problem-solving processes and applications of geometry. The course will cover axiomatic, planar Euclidean geometry, including the role of proof in geometry and appropriate technology used to teach the content with the aim of achieving proficiency within related secondary school math standards.
Typically Offered: Spring, even years.

MATH 621. Probability and Statistics for Teachers. 3 Credits.
Current and prospective teachers will broaden and deepen their understanding of probability and statistics concepts and pedagogy to better engage high school students in the problem-solving processes and applications of probability and statistics. The course will cover descriptive and inferential statistics, displaying data, probability, distributions, correlation, hypothesis tests, and appropriate technology used to teach the content with the aim of achieving proficiency within related secondary school math standards.
Typically Offered: Summer, odd years.

MATH 665. Calculus for Teachers. 3 Credits.
Current and prospective teachers will broaden and deepen their understanding of calculus concepts and pedagogy to better engage high school students in the problem-solving processes and applications of calculus. The course will cover differential and integral calculus topics, including appropriate technology used to teach the content with the aim of achieving proficiency within related secondary school and college-level calculus learning outcomes.
Typically Offered: Summer, even years.

MATH 690. Trends, Methods, and Technology in Mathematics Education. 3 Credits.
Current and prospective teachers will explore, broaden, and deepen their understanding of concepts and pedagogy as it relates to current trends, methods, and technology in a high school math classroom designed to enhance teaching and learning. The course will focus on teacher preparation in anticipation of teaching dual credit math courses.
Typically Offered: Fall, even years.

MATH 699. Special Topics. 1-3 Credits.
An advanced study covering topics not regularly taught in the Master of education program. The course provides learners with the flexibility to investigate topics of interest.
Typically Offered: On sufficient demand.