MATH, GRADUATE (MG)

MG 5010 Seminar in Mathematics Education (1-4)
The topic for the course is selected by the professor from current
developments and issues in mathematics education, such as
Mathematics for Exceptional Children, Piaget’s Research, Mathematics
Assessment, and Algebra in the K-12 Curriculum. Course may be repeated
on a different topic with permission of the department chair.

MG 5320 Middle/Secondary Pedagogy for Number, Quantity, and
Algebra (4)
This course focuses on algebraic thinking and concepts central to the
Common Core State Standards in Mathematics [CCSSM]. Specifically, the
mathematical content of the course aligns with the CCSSM standards
(gr. 5-12) in number, quantity, and algebra. Classroom activities explore
this mathematical content and the Standards for Mathematical
Practice in CCSSM deepening students’ understanding. The activities
also demonstrate how mathematical practices can be integrated in the
everyday learning experiences of every student. Building on this
knowledge students design lesson plans to achieve clear content and
process objectives. Classroom discussions focus on thinking processes,
mathematical concepts, habits of mind, conceptual understanding, and
dispositions that students need in order to develop a deep, flexible, and
enduring understanding of mathematics.

MG 5330 Middle/Secondary Pedagogy for Functions and Modeling (4)
This course focuses on functions and modeling concepts central to the
Common Core State Standards in Mathematics [CCSSM]. Specifically, the
mathematical content of the course aligns with the CCSSM standards
(gr. 5-12) in functions and modeling. Students will develop
conceptual understanding and confidence working with functions and
modeling. Activities are designed to demonstrate how the Standards
for Mathematical Practice in CCSSM can be integrated in the everyday
learning experiences of every student. Class discussions are centered
on thinking processes, habits of mind, conceptual understanding, and
dispositions that students need in order to develop a deep, flexible, and
enduring understanding of mathematics.

MG 5340 Middle/Secondary Pedagogy for Geometry (4)
This course focuses on Euclidean geometry concepts central to the
Common Core State Standards in Mathematics [CCSSM]. The
mathematical content of the course aligns with the CCSSM standards
(gr. 5-12) in geometry. Students will develop conceptual understanding of
geometric properties and relationships, applying and analyzing concepts,
procedures, and proofs. Activities are designed to demonstrate how the
Standards for Mathematical Practice in CCSSM can be integrated in the
everyday learning experiences of every student. Class discussions are centered
on thinking processes, habits of mind, conceptual understanding, and
dispositions that students need in order to develop a deep, flexible, and
enduring understanding of mathematics.

MG 5350 Middle/Secondary Pedagogy for Statistics and Probability (4)
This course focuses on statistics and probability concepts central to
the Common Core State Standards in Mathematics [CCSSM]. The
mathematical content of the course aligns with the CCSSM standards
(gr. 5-12) in statistics and probability. Students will develop conceptual
understanding and fluency in statistical concepts, data analysis, and
probability. Activities are designed to demonstrate how the Standards
for Mathematical Practice in CCSSM can be integrated in the everyday
learning experiences of every student. Class discussions are centered on
thinking processes, habits of mind, conceptual understanding, and
dispositions that students need in order to develop a deep, flexible, and
enduring understanding of mathematics.