MAE

Mathematics Teacher Preparation

MAE 501: Foundations of Secondary Mathematics Curriculum

A re-examination of the current middle school and high school mathematics curriculum. A review of the techniques and discussion of the ideas from a more advanced point of view, including topics in algebra, geometry, elementary functions, and probability and statistics. Competence in basic secondary school mathematical ideas and techniques is tested.

3 credits, Letter graded (A, A-, B+, etc.)

MAE 510: Introduction to Methods of Teaching and Learning Standards

Introduction to the basic methods of teaching middle school and high school mathematics, including study of lesson designs based on National Council of Teachers of Mathematics (NCTM) and New York State standards, and the study of pedagogical techniques including cooperative learning and the uses of technology. Students also engage in guided observation of middle school and high school mathematics classes.

3 credits, Letter graded (A, A-, B+, etc.)

MAE 520: Advanced Methods of Teaching Secondary School Mathematics

The philosophy and goals of mathematics education, with an emphasis on implementation: curriculum development; teaching techniques and styles, and learning theories and styles; lesson planning and assessment. Students will plan an entire unit, the work sample, including lesson plans and assessments, for inclusion in the professional portfolio.

3 credits, Letter graded (A, A-, B+, etc.)

MAE 530: Directed Readings and Research Paper in Mathematics Education

Tutorial studies concerning current issues in mathematics education, including recent research and topics in the history of mathematics and their relation to teaching practice. Students write a research paper for inclusion in the professional portfolio. Prerequisites: MAE 501 and 510. Enrollment Limit: 18

Fall, 1 credit, Letter graded (A, A-, B+, etc.)

MAE 540: Clinical Experience

Supervised classroom experience in both middle school and high school settings, including experience in a high needs district, individual tutoring, working with small groups, and working as an inclusion aide. Seminar discussions focus on classroom observations and experiences.

2 credits, Letter graded (A, A-, B+, etc.)

MAE 551: Supervised Student Teaching in Middle School

Student teaching under the supervision of an experienced teacher in middle school and high school settings. These courses must be taken simultaneously.

Prerequisites: MAE 520, 530, and 540; satisfaction of all other program requirements; permission of the Director of Mathematics Education.
Fall, 3 credits, S/U grading

MAE 552: Supervised Student Teaching in High School

Student teaching under the supervision of an experienced teacher in middle school and high school settings. These courses must be taken simultaneously.

Prerequisites: MAE 520, 530 and 540; satisfaction of all other program requirements; permission of the Director of Mathematics Education.
Fall, 3 credits, S/U grading

MAE 554: Student Teaching Seminar

The student teaching experience (MAE 551/552) serves as a focus for weekly discussions of teaching and learning styles and techniques, and classroom management issues. Includes N.Y. State mandated seminars on child abuse, substance abuse and school violence.

Prerequisite: Permission of the Director of Mathematics Education.
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

MAE 698: Independent Study, Mathematics Education

Independent study. Topics in mathematics education. Semesters Offered:

Fall, Spring, 1-12 credits, S/U grading
May be repeated 1 times FOR credit.

MAE 699: Dissertation Research On Campus

Dissertation research for students completing thesis research in mathematics education.

1-9 credits, S/U grading
May be repeated for credit.

MAE 701: Dissertation Research Off Campus

Off campus dissertation research for students completing thesis research in mathematics education. All international students must receive clearance from an International Advisor.

1-9 credits, S/U grading
May be repeated for credit.