MATHEMATICS EDUCATION (MED)

MED 500 PRACTICUM I: GRADUATE FIELD EXPERIENCE IN SECONDARY MATHEMATICS EDUCATION
3, 1/4
Current school mathematics practices; related mathematics teaching periodicals and policy documents; affective and societal issues surrounding teaching; reflective observation of teaching and learning and the classroom, school, and community contexts in which they occur.

MED 501 PRACTICUM II: PRACTICE TEACHING MATHEMATICS IN THE MIDDLE SCHOOL
3, 0/6
Prerequisites: Admission to the postbaccalaureate certification program; successful completion of all coursework in the postbaccalaureate certification program; recommendation from a member of the mathematics education graduate faculty committee. Introduction to the practice of classroom teaching for the prospective middle/junior high school mathematics teacher. Field experience with classroom discipline, instructional planning, curricular issues, assessment and testing, field observation and participation, peer presentations, construction and critique of lesson plans, use of media, and research and use of teaching strategies.

MED 502 PRACTICUM III: PRACTICE TEACHING MATHEMATICS IN THE HIGH SCHOOL
3, 0/6
Introduction to the practice of classroom teaching for prospective high school mathematics teachers. Field experience with classroom discipline, instructional planning, curricular issues, assessment and testing, field observation and participation, peer presentations, construction and critique of lesson plans, use of media, and research and use of teaching strategies.

MED 524 MATHEMATICS INSTRUCTION AT THE SECONDARY LEVEL
1, 1/0
Prerequisite: Education major or mathematics education postbaccalaureate certification program major. Content, teaching methods, activities, and evaluation procedures typically used in mathematics instruction at the secondary level.

MED 588 TOPICS COURSE
3, 3/0

MED 590 INDEPENDENT STUDY
1-3, 0/0

MED 594 GRADUATE WORKSHOP
1-3, 0/0
See the Graduate Course Catalog (http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

MED 595 RESEARCH METHODS AND TECHNIQUES IN MATHEMATICS EDUCATION
3, 3/0
Prerequisite: 9 credit hours of graduate-level coursework in mathematics. Nature of educational research; problem analysis; descriptive and inferential statistics; experimental design; strategy of historical, descriptive, and experimental studies.

MED 598 MICRO COURSE
1-3, 0/0
See the Graduate Course Catalog (http://www.buffalostate.edu/graduateschool/documents/courselistings.pdf)

MED 600 CONTEMPORARY MATHEMATICS CURRICULUM DEVELOPMENT
3, 3/0
Contemporary mathematics curricular developments in the United States and other countries, and the forces that shape these developments; historical background influencing current curricular developments; mathematics curricula and their relation to school and society.

MED 601 SEMINAR IN THE TEACHING OF MATHEMATICS
3, 3/0
Techniques and topics for teaching mathematics in grades 7 through 12.

MED 602 MATHEMATICS FOR THE SECONDARY SCHOOL TEACHER: SELECTED TOPICS
3, 3/0
Prerequisite: Instructor permission. Selected topics in mathematics related to the secondary mathematics curriculum.

MED 604 TEACHING OF GEOMETRIC CONCEPTS
3, 3/0
Prerequisite: Acceptance to the mathematics master's degree program. Traditional Euclidean approach; transformational, computer-based, and integrated approaches to the teaching and learning of geometric concepts in high school; learning theory, pedagogy, mathematical models, and new developments specific to the teaching of geometric concepts in the high school curriculum.
MED 605 TEACHING OF ALGEBRAIC CONCEPTS  
3, 3/0  
Prerequisite: Acceptance to the mathematics master's degree program. Structuralist, intuitive, historical, and applied approaches to the teaching of concepts of algebra; learning theory, pedagogy, mathematical models, and new developments specific to the teaching of algebraic concepts in the high school curriculum.

MED 606 LOGO AND MATHEMATICS LEARNING  
3, 3/0  
History of LOGO language development; use of LOGO in the secondary and elementary schools; turtle graphs and the use of LOGO in problem solving. Appropriate for teachers of math and science, as well as teachers of other subjects.

MED 607 TECHNOLOGY IN MATHEMATICS EDUCATION  
3, 3/0  
Use and evaluation of equipment and software available for the mathematics classroom: developing classroom lessons using the equipment and software; preparation for adoption of future developments. Students produce projects for use in their classrooms.

MED 683 PROBLEM SOLVING AND PROBLEM POSING  
3, 3/0  
Prerequisite: Acceptance to the mathematics master's degree program. Techniques of problem solving and problem posing in mathematics: role of teaching problem solving in the high school setting.

MED 690 MASTER'S PROJECT  
1-9, 0/0  
Study undertaken by one or more individuals, under the supervision of a member of the graduate mathematics faculty, on a problem of special interest submitted in acceptable form according to directions given by the Mathematics Department.

MED 721 THESIS/PROJECT CONTINUATION  
0, 0/0  
MED 722 THESIS/PROJECT EXTENDED  
0, 0/0  
MED 795 MASTER'S THESIS IN MATHEMATICS EDUCATION  
3, 3/0  
Individual investigation of original problem, conducted under the supervision of a member of the graduate mathematics faculty, submitted in acceptable form according to directions given by the Graduate School.