The School of Education, through the Teaching and Leadership Department and in cooperation with the Department of Mathematics in the College of Arts and Sciences, offers a Ph.D. degree in mathematics education. The program is designed for students who have demonstrated a high level of mathematical capability and are committed to full-time graduate study. It emphasizes preparation for academic positions in three areas:

- research on the teaching and learning of mathematics
- teacher preparation and professional development
- teaching mathematics education at the college level

Successful completion of the doctoral program typically requires three to four years of study beyond the master’s degree. Each student’s program of study is tailored to fit the individual’s background, professional experience, and career goals and to satisfy degree requirements.

Most doctoral students earn the majority of their mathematics education credits by working closely with the mathematics education faculty in courses, independent study projects, and internships. Students are encouraged to develop strong backgrounds in mathematics, research design and methods, and learning theories.

**Degree Requirements**

**Course Requirements**

Students must complete a minimum of 90 credits beyond the baccalaureate degree, including the following:

- at least 48 credits in mathematics, mathematics education, and education;
- at least 12 credits of research methods and/or other scholarly inquiry courses; and
- EDU 781 Institutions and Processes of Education.

**Other Requirements**

- preliminary exams (a set of written questions followed by an oral exam);
- qualifying exams (a set of written questions followed by an oral exam, a research presentation at a professional conference, and the submission of a paper for publication);
- a research apprenticeship (following successful completion of preliminary exams); and
- dissertation work (9-24 credits).
Graduate Courses in Mathematics Education Include the Following:

MTD/SED 634  Teaching and Learning Functions
MTD/EEED/SED 636  Assessing Mathematical Understanding
MTD/SED 637  Teaching and Learning Geometry
MTD/SED 638  Teaching and Learning Statistics
MTD/RED 736  Mathematical Communications
MTD 835  Learning Theories in Mathematics Education
MTD 800  Special Topics in Mathematics Education
MTD 830  Research Seminar in Mathematics Education

Students have the opportunity to work with faculty members through internships in conjunction with any of the following courses:

EED 333/623  Elementary Mathematics Methods
SED 413/613  Methods and Curriculum in Teaching Mathematics
SED 415/615  Teacher Development in Mathematics
MAT 117 and 118  Foundational Mathematics via Problem Solving I and II

Students are required to participate in MTD 830 Research Seminar in Mathematics Education, a weekly gathering of faculty and doctoral students in mathematics education, to discuss and present research in the field. We encourage all doctoral students to participate in the Future Professorate Program (FPP) as well. Doctoral students in mathematics education are eligible to participate in the FPP through the School of Education and/or the Department of Mathematics. See http://www.syr.edu/gradschool/gsprograms/fpp/.

The Following Research Methods Course Sequences Are Recommended:

Qualitative emphasis: EDU 603, EDU 791, EDU 810, EDU 815
Quantitative emphasis: EDU 603, EDU 791, EDU 737, EDU 866

Mathematics Education Faculty

Dr. Helen M. Doerr, Professor of Mathematics and Mathematics Education, Ph.D., Cornell University, 1994
- **Areas of interest:** secondary mathematics education, teacher learning (especially in urban settings), use of technology to support student learning, and mathematical communication

Dr. Joanna O. Masingila, Professor of Mathematics and Mathematics Education, Ph.D., Indiana University, 1992
- **Areas of interest:** mathematics learning in context, teacher learning (especially in urban settings), connecting mathematics learning and practice in and out of school, and curriculum development

Dr. Patricia P. Tinto, Associate Professor of Teaching and Leadership, Ph.D., Syracuse University, 1990
- **Areas of interest:** collaborative learning, working with teachers as researchers in their own classrooms, and teacher education

Admission to the Program

Apply online for admission to the Graduate School of Syracuse University for the Doctor of Philosophy degree at https://apply.embarc.com/grad/syracuse, stating on the application that you are seeking admission in mathematics education. After admission to the program through the Graduate School, a faculty advisor is assigned to direct your initial program of study.

Financial Assistance

Teaching and Research Assistantships

The majority of full-time graduate students in mathematics education at Syracuse University are supported by assistantships. Teaching assistantships are awarded by two sources: the Department of Mathematics and the School of Education’s Teaching and Leadership Department. Research assistantships are awarded through mathematics education faculty grants.

University Awards

Financial assistance is also available from the Graduate School for qualified students. These awards (and the application processes for them) are described in the bulletin of the Graduate School.

Contact Professor Masingila for more information regarding financial assistance.