The undergraduate program in Mathematics Education is offered dually by the College of Arts and Sciences and the School of Education. The Mathematics Education major cannot be completed without this dual enrollment. In addition, students formally declare a Mathematics major (sometime after completion of MAT 295, 296, 397 with no grade below a C, and enrollment in MAT 275 or 331) which would also be listed as a program of study on their record. Students earn one diploma granted by both colleges.

**ADMISSIONS:**
Undergraduate students are admitted to the Mathematics Education program one of three ways:
- as a freshman, applying through the Office of Admissions.
- as a transfer from another institution, applying through the Office of Admissions.
- as an intra-university transfer (IUT) from another SU college. Students who are already in the College of Arts and Sciences apply for IUT through the School of Education Academic Services Office, 270 Huntington Hall. Students who are entering from another SU college would apply to both colleges, but obtain approval from the College of Arts and Sciences first.

The admissions process should be completed as early as possible, to achieve ideal course sequencing and completion of the program within four years. Admission and good standing in the program require a minimum of 2.8 cumulative grade point average, a 2.8 in mathematics courses and a 2.8 in required education courses taken to date. Additional requirements for admission to professional semesters are described below.

**ADVISING:** Mathematics Education students are advised by Dr. Joanna Masingila (203 Carnegie, 315-443-1483, jomasing@syr.edu). The Arts and Sciences Records Office, 329 Hall of Languages, also assists students, and participates in the monitoring of progress toward meeting general degree requirements. Mathematics Education freshmen (or transfers, when new) should meet with Marie Sarno (Program Specialist, Teaching and Leadership Programs, 138 Huntington Hall – x2685 for appointment) to complete a plan of their upcoming semesters. During this time, students will be assigned to particular semesters for professional courses.

**TEACHER CERTIFICATION:** The Mathematics Education program currently meets the academic requirements for New York State initial teacher certification to teach mathematics in grades 7-12.

Other requirements for initial certification include:
- U.S. citizenship or a declaration of intent to become a citizen;
- Completion of an application satisfactory to NY State; submission of fees and
transcripts;
♦ Passing scores on the New York State Liberal Arts and Sciences Test (LAST), the Written Assessment of Teaching Skills Test (ATS-W), and the Content Specialty Test in Mathematics.

Additional requirements for New York State professional certification must be met within three years of the date of the initial certificate. Currently these include:

- an appropriate master's degree defined as one in a new areas of certification; one registered by the state as leading to professional certification in the same content area of the initial certificate; or a masters in any area as long as at least 12 credits are completed in the content area or an area related to the content area.
- U.S. citizenship; and
- three years of teaching experience. Unless two years of teaching experience have been completed before the first teaching position in New York, the first year of teaching experience in New York must be an appropriate mentorship.

New York State is part of an interstate certification compact with several other states, a fact that helps graduates of approved New York programs qualify for certification in other states. However, even some of the reciprocal states may have additional test or other requirements that need to be met. Students are advised to contact their states of interest as early as possible to find out about requirements, and keep abreast of changes, so that differing requirements can be met in a timely manner. Addresses are available from the Educational Career Services Office, 270 Huntington Hall.

Additional information about the New York State tests:
♦ They are offered only 3 times per year. Advanced registration (several weeks) is required.
♦ Registration booklets are available in 270 Huntington Hall. Fees are charged.
♦ Booklets contain information about obtaining study materials.
♦ LAST may be taken as early as the latter part of the sophomore year. We recommend it be taken no later than the junior year.
♦ The other tests may be best taken in the senior year, or when most of the professional education study is complete; students should discuss this with advisors. It is not necessarily advisable to wait until the last test before the application for certification.

Additional information about applying for certification:
♦ Applications (with instructions) are available from 270 Huntington Hall, to be picked up just before graduation.
♦ Successful completion of this program qualifies a student for institutional recommendation for mathematics 7-12 certification. An institutional recommendation application form is used, and submitted through Academic Services, 270 Huntington Hall, after the graduation date.
♦ Fees are charged.

PROGRAM REQUIREMENTS

General Requirements:
Note: Monitoring of completion of degree requirements is a joint effort of the students, the Mathematics
Education advisor, the Arts and Sciences Records Office, and, to a lesser extent, the School of Education Academic Services Office. Students may need to consult more than one advising source for information.

1. Completion of a minimum of 126-127 credits;

2. Completion of a minimum of 90 Arts and Sciences credits. Note: School of Education courses are considered non-Arts and Sciences, and total 36-37 credits.

3. Completion of the College of Arts and Sciences Liberal Arts core, keeping in mind that some courses (e.g., MAT 295, EDU 310) may meet more than one requirement at the same time. (This is important for completing requirements efficiently, and for freeing up possible room for Arts and Sciences electives.) The following must be included:

   - Natural Sciences and Mathematics group: PHY 211, 212, 221, 222 (8 credits)
   - Humanities group: One course from FIA options
   - Humanities or Social Science group: One course from HST options
   - Social Science group: One course that is neither HST or PSY
   - Social Science or Humanities group: One course that is approved as multicultural (defined as having non-Western material, representative of minorities in American Schools).

4. Completion of the mathematics major (B.S. requirements). Requirements include:

   - Preliminary requirements: MAT 295, 296, 397, 275, 331 (see sequence below) with no grade lower than C.
   - Additional: MAT 412, and 27 credits numbered MAT 500 or higher. These courses are: MAT 512, 521, 525 or 526, 531, 534, 541, 551, 593, and another 500-level course chosen with advisor.

5. Completion of at least the first college level of a foreign language (SU’s 101, or a four or six-credit course/sequence judged equivalent by the foreign language department). Equivalency may also be established by completion of a higher level college course; by appropriate testing of previous competency; or by high school study through level three. (This equivalency applies to the School of Education language requirement only, and may not be true for those also trying to meet a College of Arts and Sciences requirement in foreign language.)

6. Participation in the Academy of Mathematics Educators and development of an acceptable professional portfolio. Information about the Academy and portfolio is in other documents available from the Mathematics Education advisor.

7. Completion of the professional education sequence listed below.

**Study Abroad**

Because many of the credits in this program are specified, and mathematics courses are typically not available at study abroad programs, semester study abroad typically would result in more intense study of mathematics in other semesters, summer mathematics courses, and/or an additional semester. Because of the professional education sequence, study abroad is not possible in the last fall semester, or the spring
immediately preceding it. Students who are thinking of studying abroad must discuss this at the time of entry into the program, so that careful planning may take place. Those who want to study abroad are also encouraged to investigate summer abroad options.

**Professional Education requirements:**

1. **EDU 204  Principles of Learning in Inclusive Classrooms**
   May be taken as early as second semester freshman year. Unless not possible because of transfer, should be taken no later than the sophomore year (no later than the fall before the Candidacy semester for transfers.) Offered both semesters. Half-day field experience (total of at least 25 hours) is required, primarily observational.

2. **EDU 304  Study of Teaching**
   Should be taken after EDU 204 (unless a late transfer who has to take EDU 204 and 304 concurrently in the fall prior to the Candidacy semester). Encouraged for the sophomore year, but no later than the fall of the junior year (semester prior to Candidacy semester). Offered both semesters. Half-day field experience (total of at least 25 hours) is required, primarily observational.

3. **EDU 310  American School**
   May be taken as early as the sophomore year. Does not need to be taken before student teaching. Offered both semesters.

4. **Participation in the Professional Development School/Mathematics**
   Begins no later than the EDU 204 semester; may begin earlier. Development of the professional portfolio begins with this participation. General written information about the Academy of Educators and additional details about the Academy of Mathematics Educators and portfolios are available from the Mathematics Education advisor.

5. **WRT 205** (see Liberal Arts Core section). Special section for education students; Should be taken, if available (see Mathematics Education advisor).

6. **RED 326  Literacy Across the Curriculum.** Will be taken in the sophomore year or first semester junior year. Includes at least 25 hours of literacy tutoring.

7. Completing a workshop and successfully passing an exam on identifying and reporting child abuse; drugs, alcohol and tobacco; first safety; and other issues teachers may face.

8. **Candidacy semester (spring only):**
   SED 413  Methods and Curriculum in Teaching/Mathematics 3
   SED 409  Adapting Instruction for Diverse Student Needs 3
   EDU 508  Student Teaching/Mathematics/Candidacy 3
Prerequisites to the Candidacy semester include: a minimum 2.8 cumulative GPA, and 2.8 in both required education and mathematics courses; completion of a minimum of 27 mathematics credits used toward the major; completion of the EDU 204, 304, RED 326, WRT 205 as well as regular participation in the Academy of Mathematics Educators; successful review of the entrance portfolio by the Academy.

The nine credits listed must be taken as a block, and are offered M-F, all morning. Students must plan ahead to take any other desired (e.g., MAT) courses that are offered at the Candidacy block time in the spring semester in a prior or later semester.

During the Candidacy semester, students will also be expected to student teach full time during the Syracuse University Spring Break.

An application for student teaching must be completed no later than the previous May 1st (available from the Mathematics Education advisor, and to be turned in at 130 Huntington Hall). The student teaching placement will be at either the 7-9 or the 10-12 level. Students should request the level of least interest, and request the other level for the longer, fall Standard student teaching semester. Although there is no guarantee, preferences for level will be considered.

Student teaching begins with a few early visits to the placement, followed by an approximately six-week, every-morning experience. Other Candidacy semester courses do not meet regularly during this six-week period so that the early morning time can be used for student teaching. For some students, this experience may start before 8:30 a.m. and, depending on both the school's and the student's schedule, transportation, etc., could end at various times.

Students who successfully complete this first student teaching experience earn a "V" (variable length course in progress) grade until after the successful completion of the Standard student teaching semester placement in the fall. EDU 508 is graded pass/fail.

9. Standard student teaching semester (fall only):
   SED 415 Teacher Development/Mathematics 3
   EDU 508 Student Teaching/Mathematics/Standard (EDU 508 is graded pass/fail.) 9

Prerequisites include: successful completion of the Candidacy semester, with review of the progress portfolio by the Academy; 2.8 minimum averages as mentioned above; a minimum of 33 credits of the mathematics major completed.
Ideally, students should plan to take only the above 12 credits (and SED 340) in this semester, to be able to give more full attention to student teaching. Those who cannot do this should plan to take no more than 15-16 credits in this semester, remembering that courses other than those above must meet after public school hours (4:00 p.m. or later), and must not conflict with SED 415.

The student teaching placement is for the full school day, for a minimum of 10 weeks. Students should plan to follow the teacher (not student) schedule for arrival and departure.

Toward the end of this experience, students must also present an exit portfolio to the Academy and receive their approval.