

# MATHEMATICS, SCIENCE, AND TECHNOLOGY EDUCATION

## Master of Arts Degree

The Master of Arts (M.A.) in Mathematics, Science, and Technology (MSAT) Education is designed to broaden perspectives on learning, curriculum, instruction, and assessment in educational settings. Careful attention is given to designing a program that will assist candidates in solving immediate educational problems and will foster growth in understanding and conducting educational research. A blend of theory and practice, the program is composed of core courses as well as specialized courses tailored to the individual student's needs. Flexibility in related coursework permits students to develop an interdisciplinary perspective on mathematics, science, and technology education, as well as depth in a specialty area, such as mathematics education; science education; technology education; the integration of mathematics, science, and technology education; or middle school mathematics, science, and technology education. There is also opportunity in the program for coursework in areas such as administration and supervision or training and development.

### ADMISSION REQUIREMENTS

- Baccalaureate degree from an accredited institution
- Teacher certification or licensure with a focus on mathematics, science, or technology education or the equivalent of an undergraduate major in mathematics, science, or technology education (the M.A. program does not lead to teacher licensure)
- Minimum 3.0 overall GPA (on a 4.0 scale) in all previous undergraduate course work and a minimum 3.0 overall GPA in all previous graduate course work (may not be combined). An applicant whose GPA is below the minimum may be considered for conditional admission contingent upon satisfactory performance on the Graduate Record Exam (GRE).

College of Education  
School of Teaching and Learning  
1945 N. High St., Columbus, OH 43210-1172  
<http://ehe.osu.edu/edtl/>

- Minimum 3.0 GPA in the major content area
- Official scores from the General Test of the Graduate Record Exam taken within five years of application
- TOEFL score if required for international students (minimum score 550 paper test, 213 computer-based test, or 79 iBT TOEFL). This requirement applies to an applicant from a country where the native language is not English, unless a bachelor's degree or its equivalent or higher was earned in a country where English is the native language.
- Quality of writing as evidenced in a statement of intent (2-3 pages, double spaced)
- Three letters of recommendation (four preferred) attesting to your academic and professional potential—include two from professors who have had you in class
- Resume or curriculum vita (2-page limit for fellowship consideration)

### APPLICATION

- Apply online at <http://www.gradapply.osu.edu> (requires online payment of application fee). You may check the status of your application online at <http://www.appstatus.osu.edu>
- **Domestic applicants** should apply by July 1 for admission Autumn quarter, October 15 for Winter, February 1 for Spring, and April 1 for Summer—**international applicants** should apply by November 28 for admission the following Autumn.

### SCHOLARSHIPS & FINANCIAL ASSISTANCE

- Students who have a cumulative undergraduate GPA of 3.6 or above and score in the 75<sup>th</sup> percentile on the GRE may be eligible for a **University Fellowship**, which will pay tuition for four full-time quarters. Information regarding this and other fellowships is available on the Web at <http://www.gradsch.ohio-state.edu/>. To be considered for a fellowship, completed admissions applications and all required documentation must be received **prior to January 1 (November 28 for international applicants)**. To be

competitive, applicants who wish to be considered for a fellowship should submit three letters of recommendation from professors regarding their academic potential, one letter regarding their potential in the field, a list of their academic accomplishments, and a resume (limit two pages).

- For information regarding **College of Education & Human Ecology Scholarships**, visit the Web: <http://ehe.ohio-state.edu/academics/scholarship.php> Scholarship applications are available from November-January. The priority application deadline is **January 31**
- For general information, contact the Office of Financial Aid, 614-292-0300 or visit the Web site at <http://sfa.osu.edu>
- For information regarding additional financial assistance for minority students, contact the Office of Equity & Diversity, 614-292-1936 or visit their Web-site at <http://www.education.osu.edu/oed>
- For information regarding Teacher Loan Forgiveness, contact Direct Loan Servicing at 800-848-0979 or visit their Web site at <http://www.dl.ed.gov>.

*Allow 3-4 months to process financial aid applications.*

## ACADEMIC STANDARDS

To remain in good academic standing, graduate students must maintain a minimum 3.0 overall GPA.

## REQUIRED HOURS

Students may choose a thesis or a non-thesis option. The thesis option requires a minimum of 45 graduate credit hours and satisfactory completion of a thesis and an oral examination. The non-thesis option requires a minimum of 50 graduate credit hours and satisfactory completion of an active research project and written comprehensive exam.

## RESIDENCY

M.A. students in the School of Teaching and Learning must fulfill a residency requirement by completing a minimum of 12 graduate credit hours within five consecutive quarters.

## TIME LIMIT, GRADUATE NON-DEGREE, AND TRANSFER CREDIT

All graduate credit hours applied to the M.A. degree, including graduate non-degree and transfer credit, must be completed within six years of the date of graduation. The program may be completed in 4-5 full-time quarters or part-time taking one or two courses per quarter. Students may transfer a maximum of 10 graduate non-degree credit hours into the M.A. program if appropriate for the program in place at the time of admission and approved by the faculty adviser. In addition, graduate credit from another institution may be transferred into the program with approval of the faculty adviser. A minimum of 36 graduate credit hours must be completed at this university.

## PROGRAM OF STUDY

The program features an integrated core in mathematics, science, and technology education, including coursework in learning/cognition, multicultural issues, integrated content, and professional development. In addition to the core, each student takes courses in one of five specialty areas: mathematics education; science education; technology education; integrated mathematics, science, and technology education; or middle school mathematics, science, and technology education. Each student is assigned a faculty adviser from his or her specialty area to assist in program planning. Program content is selected to fit the student's background and experience as well as professional goals.

## MSAT CORE (15 hours)

### Learning/Cognition (select one)

Edu T&L 721.0x Lrng & Cognition in Schl MSAT Ed  
(or equivalent learning/cognition course approved by adviser)

### Multicultural Issues (select one)

Edu T&L 748.03\* Reaching All Students in MSAT Ed  
(or any course from the Multicultural list approved by the adviser)

### Integrated Content

Edu T&L 850 Exp in Intgrtd Content in MSAT Ed

### Professional Development (select two)

Edu T&L 748.01 Intro to Teaching MSAT Ed  
Edu T&L 748.02 Methods of Integrating MSAT Ed  
Edu T&L 937.23 First-Year Doctoral Seminar  
Edu T&L 876 MSAT & the Educated Mind

## **SPECIALTY CONTENT (18 hours)**

In consultation with their faculty advisers, students select courses in one of the following specialty content areas:

- Mathematics Education
- Science Education
- Technology Education
- Integrated Mathematics, Science, and Technology Education
- Middle School Math, Science, and Technology Education

## **SCHOOL REQUIREMENTS**

Courses chosen to fulfill program requirements must meet the following criteria specified by the school.

- One course each in foundations of education, multicultural education, and research (lists of approved courses are available in 227 Arps)
- A minimum of 6 graduate credit hours in independent study (693.xx or 893.xx) and/or seminar (925.xx or 937.xx), but no more than 15 hours of independent study
- A maximum of 24 graduate credit hours may be graded satisfactory
- At least 18 credit hours must be taken in courses not open to undergraduate students (e.g., 800 and 900 level courses or 700 level courses specifically limited to graduate students)
- A maximum of nine credit hours may be taken in special topics (727.xx).

## **RESEARCH (6 hours)**

Thesis option: Students selecting the thesis option will complete a minimum of 6 hours in educational research. Additional courses beyond the 6-hour minimum are strongly recommended. The thesis research topic, selected in consultation with the student's adviser, must represent original inquiry into any topic related to mathematics, science, or technology education.

Non-thesis Option: Students selecting the non-thesis option are expected to design, conduct, and report a research project as part of the M.A. program. Typically, enrollment for the project work is distributed over at least two quarters, including a course in research design and at least one independent study or seminar. A proposal describing the problem, the related literature, and a detailed plan is expected prior to conducting the project and a final written report generally completed during the final quarter of enrollment.

## **COMPREHENSIVE EXAMINATION**

In the final quarter of the program each student takes a comprehensive examination as follows:

Thesis Option: Students take a one-hour oral examination not restricted to the thesis.

Non-thesis Option: Students write a four-hour examination in mathematics, science, or technology education

Alternatives to the written comprehensive examination, such as a portfolio or manuscript to be submitted for publication, are available and should be discussed with the adviser early in the program.

## **FURTHER INFORMATION**

Academic advisers are available by appointment in the Office of Academic Services, 227 Arps Hall to answer your questions about the program and the admissions, fellowship, and scholarship processes. For assistance, call 614-292-2332 (or call 888-678-3382 toll-free and ask to be transferred). Scheduling begins on Wednesday for the following week. Limited walk-ins also are available each week.