TEACHERS COLLEGE COLUMBIA UNIVERSITY  
Department of Mathematics, Science and Technology  

MATHEMATICS EDUCATION PROGRAM  

Master of Arts in Mathematics Education  
Master of Arts in Mathematics Education with NY State Certification

Master of Arts Degree (M.A.)  
Program Code: MATH  
Master of Arts Degree with NY State Certification (M.A.)  
Program Code: MATH-PROF

Brief Program Description  
The Master of Arts degree in Mathematics Education is an advanced professional degree for 
elementary school, secondary school, and community college teachers of mathematics. The 
program of studies for the degree is designed to increase the teacher’s knowledge of mathematics 
as well as the teaching of mathematics.

Prerequisite Requirements  
Admission to the program requires evidence of ability to do graduate work in mathematics 
education. Normally, an undergraduate major or strong minor in a mathematical science that 
includes substantial coursework beyond the calculus is recommended. Students are referred to 
the Teachers College Bulletin for general information concerning admission and degree 
requirements. (URL: http://www.tc.columbia.edu/admissions/catalog.htm)

Minimum Point Requirement  
The program of studies for the M.A. degree must include a minimum of 32 semester hours of 
graduate study under Teachers College auspices. Credits for graduate courses completed at other 
institutions cannot be included within this minimum. Normally students complete 24 credits in 
courses in mathematics and mathematics education including the sequence:

Required Courses

<table>
<thead>
<tr>
<th></th>
<th>Mathematics Content</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Breadth in mathematics content with sufficient depth in two or three areas of mathematics to communicate content effectively.</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mathematics Education &amp; Professional Experiences</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>Two theory and methods courses in the teaching of mathematics or other professional courses in mathematics education. MSTM 4019 is recommended.</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th></th>
<th>General Professional Education</th>
<th>Points</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>Three Teachers College courses outside the Program in Mathematics. For this purpose, a course is defined as an offering for which at least two points are earned.</td>
<td>8</td>
</tr>
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Specialists in the teaching of elementary school mathematics should include MSTM 5010 Mathematics in the Elementary School. Secondary school specialists should enroll for
MSTM 5023 Problem Solving, MSTM 5032 Topics in Geometry and MSTM 5037 History of Mathematics. Prospective community college teachers should select courses in at least three mathematical areas such as analysis, algebra, computing, etc. in preparation for study beyond the Master’s level.

**Breadth Requirement**
Preparation in computing is recommended for all three specializations. Teachers desiring a specialization in computing should enroll for MSTM 5036 Discrete Mathematics. MSTM 4820 Java Workshop is also recommended.

**Statement on Integrative Project, Comprehensive Exam or Formal Essay Requirement**

<Master’s Degree “Departmental Special Project”>
This culminating paper provides an opportunity to make connections among courses taken as well as to relate them to field experiences, thus demonstrating an ability to integrate various aspects of the M.A. program. The paper should be approximately ten typewritten pages with a title page that includes the designation “Departmental Special Project” and the date submitted. Deadline for submission of the project for approval by an advisor depends on the expected date of graduation.

<table>
<thead>
<tr>
<th>To graduate in:</th>
<th>Submit approved application for degree to Registrar by:</th>
<th>Submit paper and obtain approval from Department by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>February 1</td>
<td>April 30</td>
</tr>
<tr>
<td>October</td>
<td>August 1</td>
<td>August 1</td>
</tr>
<tr>
<td>February</td>
<td>November 1</td>
<td>December 15</td>
</tr>
</tbody>
</table>

**Note 1:** This is not the Master’s degree essay referred to in the academic calendar. The project is submitted to the Department, not to the Registrar.

**Note 2:** New York has certification reciprocity with over 35 states. For more information on reciprocity or permanent state certification contact the Office of Teacher Education (400 Russell Hall; 212-678-3502; [http://www.tc.columbia.edu/ote/](http://www.tc.columbia.edu/ote/)).

**Student Teaching/Fieldwork/Practicum/Internship Requirements and Information**
Classroom experience in area schools extends over the period from September to December or January through June. Students complete dual placements, concurrently or sequentially, at grade levels 7-9 and 10-12. In conjunction with the field experience, a seminar is held regularly. Students should register for MSTM 4760, section 001. Since the demands of student teaching are great, normally no more than two additional full-credit courses (three points each) are recommended during the student teaching semester. Candidates are also required to have at least 100 clock hours of field experiences related to coursework prior to student teaching.

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Revised: AY 09-10
Transfer Credit Evaluation
By College policy, no transfer credits can be applied to a 32-point degree. However, if you choose to continue on for an advanced master’s degree, up to 30 points of acceptable prior graduate credits can be applied to the degree.

Statement on Satisfactory Progress and Academic Performance
Students are expected to make satisfactory progress toward the completion of degree requirements. Program faculty will review each student’s progress annually. If a student is performing below expectations he/she may be required to complete additional course work. The program will provide a plan and timeline for remediation so students know the expectation for them to continue in the program. If satisfactory progress is not maintained a student may be dismissed from the program. For additional information about Academic Performance, please refer to Degree Requirements in the TC Catalog.

An average grade of B or better is expected for satisfactory completion of the degree. According to the Mathematics Education Program policy, no more than 3 points of C may be credited toward any degree or diploma. Students completing requirements for more than one degree or diploma may count 3 points of C toward only one such award. A student who accumulates 8 points or more in C or lower grades will not be permitted to continue study at the College and will not be awarded a degree or diploma. Please see the statement on policy of grades at Teachers College. (URL: http://www.tc.columbia.edu/registrar/detail.asp?Id=Grades&Info=Definitions+of+Grades+At+Teachers+College)

Standard Policies and Procedures
Services for Students with Disabilities: The College will make reasonable accommodations for persons with documented disabilities. Students are encouraged to contact the Office of Access and Services for Individuals with Disabilities for information about registration (166 Thorndike Hall). Services are available only to students who are registered and submit appropriate documentation.

Statement on Academic Conduct: A Teachers College student is expected to refrain from any conduct, including cheating, plagiarizing, or purchasing documents submitted for academic evaluation, that calls into question his/her academic and/or professional probity. Decisions regarding academic evaluation in all aspects of students’ work at the college, including course work, certification examinations, clinical or field experiences, and preparation of dissertations, are within the sole jurisdiction of the faculty concerned, including as appropriate, the department or program staff members. Disciplinary actions (e.g., reprimand, suspension, or dismissal) in cases of academic misconduct can be imposed by the Vice Provost or the Committee on Student Conduct.

Resolution of Student Academic Program Concerns: Any student who has a concern regarding an academic matter may seek assistance. The procedure for resolving academic program concerns (see note of grade correction process below) begins with either the faculty member (if the concern is related to a course) or the student’s advisor. If the student is not satisfied with the response or resolution achieved at this first level, or if speaking with the faculty member presents a conflict of interest for the student, the student should proceed to speak with the Program
Coordinator in the area in which the academic concern resides. If the student is not satisfied with the response or resolution achieved through the Program Coordinator, the student should proceed to speak with the Chair of the academic department in which the academic concern resides. If the student is still not satisfied with the response or resolution achieved through the Department Chair, or if speaking with the Department Chair presents a conflict of interest for the student, the next step is to contact the Office of the Vice Provost. At any stage of the process, students are welcome to seek the advice and guidance of the Ombudsman, who is charged with attempting to informally resolve student dissatisfaction of an academic nature on a completely confidential basis.

Grade Correction Procedure: The instructor for a course has the responsibility for setting the requirements for a course and making an evaluation of students’ work. Once a grade has been given, the instructor is not free to change the grade unless the instructor indicates to the Registrar that an error was made in the original grade transmitted. If a student believes that an error has been made, he/she must take the initiative in bringing about the necessary correction prior to the conclusion of the semester immediately following the semester in which the course was taken. The normal procedure for effecting a correction would be through direct discussion between the student and the instructor. If redress cannot be attained through such discussions, the student may next appeal to the department chairperson of the department offering the course. If resolution cannot be attained through appeal, the student may next appeal to the Dean. In situations where the student feels that such an appeal process might not be in the student’s interest, counsel and assistance can be sought from the Office of the College Ombudsman and the Office of the Vice Provost.

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### Appendix: Point Allocation Chart

**M.A. Degree in Mathematics Education (MATH-MA)**

**M.A. Degree in Mathematics Education with NY State Certification (MATH-PROF-MA)**

<table>
<thead>
<tr>
<th>Recommended Competencies</th>
<th>Points Recommended</th>
<th>Courses and Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Breadth in mathematics content with sufficient depth in two or three areas of mathematics to communicate content effectively.</td>
<td>15</td>
<td>Knowledge of number theory, algebra, geometry, analysis, probability and statistics or computer mathematics acquired through appropriate content courses. The intent is to allow for depth in two or three mathematical areas and to encourage breadth by gaining experience in basic mathematics courses in other areas.</td>
</tr>
<tr>
<td>2. Mathematics education professional competencies.</td>
<td>6</td>
<td>Two theory and methods courses in the teaching of mathematics or other professional courses in mathematics education.</td>
</tr>
<tr>
<td>3. Background in general professional education.</td>
<td>8</td>
<td>Three TC courses outside the Program in Mathematics. For this purpose, a course is defined as an offering for which at least two points are earned.</td>
</tr>
<tr>
<td>4. Optional studies to be determined in connection with the advisor.</td>
<td>5-16</td>
<td>Courses should be selected to maximize professional development in the areas of concentration (e.g., computing, problem solving, curriculum design, etc.).</td>
</tr>
</tbody>
</table>