

TEACHERS COLLEGE COLUMBIA UNIVERSITY
Department of Mathematics, Science and Technology

MATHEMATICS EDUCATION PROGRAM

Pre-Service Master of Arts in Secondary Mathematics Education
with NY State Initial Certification
Master of Arts in Mathematics Education –Transitional B

Master of Arts Degree with Initial
 Certification 7-12 (M.A.)

Program Code: MATH-INIT

Master of Arts Degree-Transitional B
 (M.A.)*

Program Code: MATH-TRAN

Brief Program Description

The Program in Mathematics offers a Master of Arts degree program leading to a New York State initial certificate for teaching secondary school mathematics (grades 7-12). This state approved program, which can be completed with a minimum of 36 points through full-time study in one academic year and a dual summer session, is described below. Additional requirements for initial certification are listed in the Mathematics Education Certification Checklist.

*This program is specifically designed for students admitted to the college as returning Peace Corps fellows volunteers.

Minimum Points Requirement

The program of studies for the Pre-Service or Transitional B M.A. degree must include 36 semester hours of graduate study under Teachers College auspices.

Prerequisite Requirements

A. Regular admission to Teachers College.
B. Strong undergraduate preparation with a minimum of 24 semester hours in mathematics content courses, including two semesters of calculus. [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)]
C. One year college level study, or its equivalent, of a language other than English.

Program Requirements

D. Coursework	
1. Mathematics Content Courses may be selected from among department offerings in pure, applied, and computer mathematics to broaden and deepen the student's undergraduate preparation. Students should choose courses so that their composite mathematical profile includes work in the areas of algebra, calculus/analysis, geometry/topology, mathematical models/applications, number	12 points

<p>theory/historical topics, probability/statistics, discrete mathematics, and computing. Along with this broad preparation it is advisable to pursue depth in two or three areas of interest.</p>	
<p>2. Mathematics Education (theory and method) Two specific courses in this category are required:</p> <ul style="list-style-type: none"> ● MSTM 4019 Mathematics Teaching and Learning (3 points). Treats theoretical aspects of learning, methodology, and curriculum. ● MSTM 5011 Mathematics in the Secondary School (3 points). Deals with issues of classroom teaching and includes field experiences during the school day. ● The third course is chosen from among departmental offerings; however, to satisfy a state requirement for <u>understanding history, philosophy, and the role of education</u>, it is recommended that students take one of the following courses: MSTM 5020 Mathematics and Multicultural Education; or MSTM 4020 Mathematics Teaching and Learning II: Historical Perspectives, Special Students and Research or other methods courses offered by the program. 	6-9 points
<p>3. General Professional Education Students choose three courses, for at least 2 points each, outside the Program in Mathematics to acquaint themselves with the foundations of education and with broader professional issues, to provide knowledge, understanding and skills.</p> <ul style="list-style-type: none"> ● in human development: students are required to take at least one of the following courses: HUDK 4027 Development of Mathematical Thinking, HUDK 4023 Developmental Psychology: Adolescence; HUDK 5023 Cognitive Development, ● in the nature of students within the full range of disabilities: students are required to take at least one of the following courses: C&T 4001 Teaching Students with Disabilities in Inclusive Classrooms; C&T 4046A Multifoundational Approach to Learning Disabilities; HBSE 4002 Instruction and Curriculum for Students With and Without Disabilities (alternatively, students can enroll in MSTM 4023 Mathematics for Exceptional Students, which, however, does not count towards General Professional Education requirements). ● in language acquisition and literacy development: students are required to take C&T 4137 Literacy and Learning in the Content Areas (3 points) or C&T 4842 Institute: Content Area Literacies (3 points) based on an analysis of their undergraduate transcripts, students and their advisors should decide whether they need any more courses in teaching literacy in addition to this one requirement. 	6-9 points

<p>4. Student Teaching 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.</p>	<p>4 points</p>
<p>5. Electives Students should select courses that enhance their professional development in teaching mathematics. The Colloquium series, MSTM 5800/5801 (1-3 points) is a recommended option</p>	<p>2-5 points</p>
<p>E. 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 MA 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.</p>	

To graduate in:	Submit approved application for degree to Registrar by:	Submit paper and obtain approval from Department by:
May	February 1	April 30
October	August 1	August 1
February	November 1	December 15

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/>).

Transfer Credit Evaluation

No credit may be transferred in to complete the M.A. degree, though prior class work may count towards certification requirements. Consult your advisor for further information.

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. Certification students whose academic performance is unsatisfactory cannot begin the student teaching experience. 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.