TEACHING MATHEMATICS 7–12 (BS)

NYSED: 22758 **HEGIS:** 1701.01 **CIP:** 27.0101

Program Description

This Bachelor of Science program in Teaching Mathematics, 7-12 prepares teachers to think critically about their teaching and to devise ways to improve the teaching of mathematics, especially for historically underserved young people. The program is informed by current developments in mathematics teaching nationwide as well as scholarship on the challenges faced by students from urban communities. Courses integrate recommendations from research, teaching organizations, and national commissions into its curriculum. Students in the program address issues of equity in mathematics education and work to develop inclusive strategies to help all students learn more rigorous mathematics and surmount learning barriers. Students learn equitable methods of and approaches to teaching mathematics in secondary schools and in understanding the educational development of adolescents. The course of study incorporates a full range of experiences and observations, culminating in two semesters of student teaching in public or independent school settings. Students graduating from the program are eligible for New York State teacher certification for grades 7–12, with an extension for grades 5-6.

Honors

- Honors Societies: Phi Delta Kappa, Kappa Delta Pi, Pi Lambda Theta
- Departmental Honors: Senior Honors Seminar for students with at least a 3.5 GPA, cumulative and major, culminating in an honors thesis based on faculty-supervised independent research

See departmental honors (https://steinhardt.nyu.edu/current-students/student-funding-awards-and-honors/undergraduate-honors-and-awards/departmental/) for additional honors information.

Admissions

New York University's Office of Undergraduate Admissions supports the application process for all undergraduate programs at NYU. For additional information about undergraduate admissions, including application requirements, see How to Apply (https://www.nyu.edu/admissions/undergraduate-admissions/how-to-apply.html).

Program Requirements

Course	Title	Credits
Liberal Arts Requirements		
Foreign Language		
Select 4 foreign language credits		4
Expository Writing		
EXPOS-UA 1	Writing The Essay:	4
ACE-UE 110	Advanced College Essay: Educ & The Professions	4
Foundations of Contemporary Culture		
Texts and Ideas [1]		4
Cultures and Contexts [1]		4
Societies & the Social Sciences [1,2]		4
Foundations of Scientific Inquiry		
Physical Science [1,2]		4
Life Science [1,2]		4
Additional Requirements		
SAHS-UE 1	New Student Seminar	0
Writing Proficiency Examination		
Specialization Requirements		
Content Core		
MATH-UA 121	Calculus I	4
MATH-UA 122	Calculus II	4
MATH-UA 123	Calculus III	4
MATH-UA 140	Linear Algebra	4
MTHED-GE 2101	Plane Euclidean Geometry for Teachers	3
Select one of the following: [3]		3
MTHED-GE 2103	Probability and Statistics for Teachers	
MATH-UA 233	Theory of Probability	
MATH-UA 235	Probability & Statistics	
Mathematics Elective, by advisement [1,4]		4
Select one of the following: [3]		3
MTHED-GE 2102	Modern and Abstract Algebra for Teachers	
MATH-UA 343	Algebra	
MTHED-UE 1049	Mathematical Proof and Proving	3
Common Pedagogical Core		
Select one of the following:		4
SOED-UE 1015	Educ as Soc Institution	
HSED-UE 610	Educ/American Dream: Historical Perspectives	
TCHL-UE 41	American Dilemmas: Race, Inequality, and the Unfulfilled	
TCHL-UE 1	Inquiries Into Teaching & Learning I	4
TCHL-UE 5	Field Observ in Schools and Other Educ Settings	0
TCHL-UE 1030	Lang Acquis and Literacy Educ/Multi & Multi Cntxt	4
TCHL-UE 1999	Drug, Alcohol Ed/Child Abuse ID/School Violence/DASA:	1
APSY-UE 20	Human Development I	2
APSY-UE 23	Human Development II: Early Adolescents and Adolescents	2
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
Specialized Pedagogical Core		
MTHED-UE 1044	Educational Technology in Secondary School Mathematics	3
MTHED-UE 1042		3
or MTHED-UE 1047	Teaching of Pre-Calculus and Trigonometry in High School	
MTHED-UE 1043	Methods of Teaching Middle School Mathematics	3
MTHED-UE 1045	Teaching of Algebra and Rational Numbers, Grades 5-12	3
MTHED-UE 1046	The Teaching of Geometry, Grades 7-12	3
MTHED-UE 1911	Student Teaching in Mathematics Education: Middle and High School I	3
MTHED-UE 1922	Student Teaching in Mathematics Education: Middle and High School II	3
MTHED-UE 1050	Teaching Mathematical Proof and Proving	3
Math Education Elective, by advisement [2]		3
Electives		

Unrestricted Electives [2]	16
Total Credits	**128**

1

Steinhardt Liberal Arts Core (http://steinhardt.nyu.edu/advisement/LAC/)

2

Selected by advisement.

3

MATH-UA courses are 4 credits.

4

MATH-UA 2/3xx or higher. (Discrete Mathematics is Permitted).

Sample Plan of Study

Course	Title	Credits
1st Semester/Term		
SAHS-UE 1	New Student Seminar	0
EXPOS-UA 1 or EXPOS-UA 4	Writing The Essay: or International Writing Workshop I	4
MATH-UA 121	Calculus I	4
Physical Science		4
HSED-UE 1005	Introduction to US Education	4
	Credits	**16**
2nd Semester/Term		
TCHL-UE 5	Field Observ in Schools and Other Educ Settings	0
ACE-UE 110 or EXPOS-UA 9	Advanced College Essay: Educ & The Professions or International Writing Workshop II	4
MATH-UA 122	Calculus II	4
Texts and Ideas		4
Life Science		4
	Credits	**16**
3rd Semester/Term		
MATH-UA 123	Calculus III	4
MTHED-UE 1122	Sociopolitical Contexts of STEME Education.	3
MTHED-UE 1274	Fundamental Concepts in Arithmetic	4
TCHL-UE 1	Inquiries Into Teaching & Learning I	4
Unrestricted Electives		2
	Credits	**17**
4th Semester/Term		
APSY-UE 20	Human Development I (must take section 003)	2
APSY-UE 23	Human Development II: Early Adolescents and Adolescents (must take section 001)	2
MATH-UA 140	Linear Algebra	4
HSED-UE 1033	Global Culture Wars	4
Foreign Language		4
	Credits	**16**
5th Semester/Term		
MTHED-GE 2101	Plane Euclidean Geometry for Teachers	3
MTHED-UE 1043	Methods of Teaching Middle School Mathematics	3
TCHL-UE 1030	Lang Acquis and Literacy Educ/Multi & Multi Cntxt	4
SOED-UE 1015	Educ as Soc Institution	4
TCHL-UE 1999	Drug, Alcohol Ed/Child Abuse ID/School Violence/ DASA:	1
	Credits	**15**
6th Semester/Term		
MTHED-UE 1046	The Teaching of Geometry, Grades 7-12	3
MTHED-GE 2103	Probability and Statistics for Teachers	3
MATH-UA 120	Discrete Mathematics	4
Unrestricted Electives		4
Unrestricted Electives		4
	Credits	**18**
7th Semester/Term		
MTHED-UE 1045	Teaching of Algebra and Rational Numbers, Grades 5-12	3
MTHED-UE 1911	Student Teaching in Mathematics Education: Middle and High School I	3
MTHED-GE 2102	Modern and Abstract Algebra for Teachers	3
Unrestricted Electives		4
Unrestricted Electives		2
	Credits	**15**
8th Semester/Term		
MTHED-UE 1044	Educational Technology in Secondary School Mathematics	3
MTHED-UE 1080	Teaching of Computer Science	3
MTHED-UE 1922	Student Teaching in Mathematics Education: Middle and High School II	3
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
Unrestricted Electives		2
	Credits	**15**
	Total Credits	**128**

Learning Outcomes

Upon successful completion of the program, graduates will:

1. Build relationships with students and families with the goal of fostering student learning, engagement and well-being.
2. Integrate theory/research with pedagogical and classroom practice.
3. Develop and implement discipline-based curricula, unit plans and lessons that are coherent, use culturally relevant pedagogies, and foster experiential learning.
4. Create and apply classroom strategies that are explicit, innovative, appropriate for a specific context, and use technology to support student learning.
5. Develop a practice that is equitable and inclusive and acquire the skills of a professional educator.

Policies

Grading Policy

Students must receive a minimum grade of C- in all mathematics content courses, and a minimum grade of B- in specialized pedagogical courses.

Fieldwork Placement

Be advised that fieldwork placement facilities that provide training required for your program degree, and agencies that issue licenses for practice in your field of study, each may require you to undergo general and criminal background checks, the results of which the facility or agency must find acceptable before it will allow you to train at its facility or issue you a license. You should inform yourself of offenses or other facts that may prevent obtaining a license to practice in your field of study. NYU Steinhardt will not be responsible if you are unable to complete program requirements or cannot obtain a license to practice in your field because of the results of such background.

STEM OPT Benefits for International Students

If you're an international student, you may be able to work in the United States after graduation for an extended period of time. Most students studying on F-1 visas will be eligible for 12 months of Optional Practical Training (OPT) off-campus work authorization. F-1 students in this program may also be eligible for the STEM (Science, Technology,

Engineering, or Mathematics) OPT extension, allowing you to extend your time in the United States to pursue degree-related work experience for a total of 36 months or 3 years. For more information on who can apply for this extension visit NYU's Office of Global Services: STEM OPT (http://www.nyu.edu/students/student-information-and-resources/student-visa-and-immigration/alumni/extend-your-opt/stem-opt.html).

NYU Policies

University-wide policies can be found on the New York University Policy pages (https://bulletins.nyu.edu/nyu/policies/).

Steinhardt Academic Policies

Additional academic policies can be found the Steinhardt academic policies page (https://bulletins.nyu.edu/undergraduate/culture-education-human-development/academic-policies/).