Developing Algebraic Thinking in the Middle Grades
Beginning Spring 2023 • Fully Remote

INCREASE YOUR SALARY
New York State certified teachers who already hold master’s degrees desire incremental raises for a master’s plus additional credits. Most teacher contracts, including the New York City Department of Education (NYCDOE) contract, reward teachers financially for attaining 15 credits and 30 credits beyond their master’s. It is never too soon to begin thinking about how to increase your salary, while also continuing to improve your teaching practice! Queens College is currently offering a streamlined 15-credit Post-Master’s (Advanced Certificate) Program in Developing Algebraic Thinking in the Middle Grades. The program consists of only five classes, all of which are fully online, synchronous courses. The program is designed to be completed in three semesters, beginning spring 2023.

ONLINE PROGRAM FEATURES
The fully-online, five course post-master’s program in Developing Algebraic Thinking in the Middle Grades at Queens College is designed to deepen and enhance elementary and middle school mathematics teachers’ knowledge of mathematics and its pedagogy. Approaches are grounded in a philosophy of student-centered learning, deep mathematical understanding, and developing a growth mindset in participants and their students. With this mission in mind, the goals of this new program include outcomes for participants related to mathematics content, pedagogy, and attitudes. Participants will demonstrate meeting these goals and objectives through a culminating project at the end of the five-course sequence and by incorporating these ideas into their respective classrooms.

COURSEWORK
SEYS 792: Developing Algebraic Thinking in the Middle School Classroom
Developing algebraic thinking is more than simply practicing how to “solve for x.” It involves recognizing patterns, modeling relationships between and among quantities, comparing and analyzing quantitative relationships, variables and functions, and nontraditional, non-routine problem solving. This course will build on these ideas and provide suggestions and methods for developing algebraic thinking in the middle grades. Semester 1, Spring 2023

SEYS 793: Mathematical Initiatives and Methods in the Middle Grades
The course will start by developing teaching ideas and methods in a math classroom in the middle grades to reach, challenge, and engage all learners. Students’ mindsets, cultures, and experiences will be brought out and developed to create stronger problem solvers who persevere and are not afraid to try other strategies. The second part of the course will help teachers plan and facilitate cross-content lessons and units throughout the middle grades through the lens of the STEAM initiative. Students will be expected to share ideas both synchronously and asynchronously. Semester 1, Spring 2023

SEYS 794: Mathematical Foundations of the Secondary School Curriculum
The purpose of this course is to engage students in experiences that will enable them to gain a deeper conceptual understanding and enjoyment of the mathematics they are teaching, particularly those underlying algebraic concepts and procedures. Participants will address common student misconceptions, with an emphasis on relating mathematical ideas to students’ cultural backgrounds, languages (ELLs), identities, and special needs. Semester 2, Fall 2023

SEYS 795: Issues and Applications in Secondary School Algebra
The purpose of this course is to take an advanced perspective on the teaching of secondary school mathematics with the aim of helping students become more informed, more effective, and more reflective mathematics teachers. While it is agreed that there is no one best way to teach mathematics, research has indicated that learning occurs best when students are placed at the center of instruction and are actively engaged in constructing their own understandings. In this course we will examine the many issues concerning mathematics instruction and the latest applications associated with curriculum, instructional strategies, manipulatives, and technologies that can be used to enhance the learning of mathematics for all students. Semester 2, Fall 2023

SEYS 796: Mathematics Content, Pedagogy, and Mindset: A Capstone Course
This is the fifth and final course in the program. This course features a capstone project intended to synthesize knowledge and experiences gained through the program’s preceding four courses. Over the course of the semester, students will be designing, implementing, and reflecting upon a unit plan which addresses all of the key themes discussed in prior courses. These plans will be refined through readings, data, and frequent feedback and collaboration from peers. There will be a culminating presentation to showcase the final results and to celebrate the conclusion of this course and the program as a whole. Semester 3, Spring 2024

REQUIREMENTS FOR ADMISSION
Admission is limited, competitive, and open to teachers of mathematics that hold master’s degrees in some area of teaching. Mathematics certification is not required as long as you teach math in some capacity. Applicants must complete the college’s online graduate application and admissions essay. The applicant’s entire record is considered, including undergraduate and graduate GPA, teaching and other experiences with children and adolescents, and demonstration of leadership and scholarship. An overall GPA of 3.0 is required. The GRE examination and letters of recommendation are not required for admission. Please contact the program coordinator, Theresa Gurl, theresa.gurl@qc.cuny.edu for more information. Follow this link to apply: https://www2.qc.cuny.edu/admissions/graduate/Pages/Welcome.aspx