

Queens College
Secondary Education & Youth Services (SEYS)

Undergraduate Initial Certificate Program (Grades 7 – 12)

MATH 712- BA

Powdermaker Hall 150

(718) 997-5150

www.qcpages.qc.cuny.edu/SEYS

PLEASE CHECK WITH AN ADVISOR FOR UPDATES TO THE PROGRAM

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This minor is intended for students who would like to become initially certified in Secondary Education (grades 7 – 12) with a concentration in Mathematics Education. Students must have taken at least two semesters of calculus and earned a minimum GPA of 2.75 in these courses to begin the program.

To qualify for student teaching you must have an average minimum GPA of 2.75 in mathematics, have earned a B in Methods (SEYS 361), and have a GPA of at least 3.0 in Education.

COURSE OUTLINE

Course Number	Title	Pre-requisites and Co-Requisites	Credits	Fieldwork Required
SEYS 201 W (Spring or Fall)	Historical, Social and Philosophical Foundations of Education	Upper Sophomore, major and minor declared	3	25 Hours Fieldwork
SEYS 221 (Spring or Fall)	Development and Learning in Middle Childhood & Adolescence	Upper Sophomore, major and minor declared	3	25 Hours Fieldwork
SEYS 340 (Spring or Fall)	Language, Literacy, and Culture In Education	Pre-requisite: 201W	3	25 Hours Fieldwork
ECPSE 350 (Spring or Fall)	Foundations in Special Education	Upper Sophomore, major and minor declared	~ 3	15 Hours Fieldwork
SEYS 350* (Fall Course)	Cognition, Technology and Instruction for Diverse Learners	Pre-requisite: 221, 340 Co-requisite: 361, 371.2	3	No extra Fieldwork when taken with SEYS 371.2
SEYS 361 *** (Fall Course)	Methods in Teaching Mathematics in Middle and High School	Pre-requisite: Math 385W Co-requisite: 350, 371.2	3	25 Hours Fieldwork in a high or middle School
SEYS 371.2** (Fall Course)	Initial Clinical Experience in Mathematics	Pre-requisite: ECPSE 350 Co-requisite: 361, 350	2	100 Hours of clinical practice (4 days per week) in high or middle school
SEYS 371.4 (Spring Course)	Student Teaching Mathematics in Middle or High School	Pre-requisite: 371.2 Co-requisite: 381W	4	15 weeks, 5 days per week, 6 periods per day, in high or middle school
SEYS 381 W**** (Spring Course)	Standards-Based Curriculum and Assessment in Teaching Mathematics	Co-requisite: 371.4	3	No Fieldwork
TOTAL NUMBER OF CREDITS			27	

* When SEYS 350 is taken as a co-requisite with SEY 371.2, candidates are not required to do extra hours of fieldwork. However, the Educational Psychology tasks are to be completed in the field, independent of ICE.

** Prior to SEYS 371.2 candidates must have accumulated 100 hours of fieldwork. Please consult advisor regarding ways to accomplish this beyond the fieldwork hours required in SYES courses.

*** Candidates must earn a minimum grade of B to progress to SEYS 371.4.

**** To be recommended for certification, students must have earned a minimum grade of B in SEYS 371.4.

~ Credits not applicable to minor's Total Number of Credits

Mathematics (At least 15 credits of these required and electives must be taken at Queens College.)

Course Number	Title	Prerequisite	Coreq.	Credit	Date Take
MATH 141, 142, & 143 OR MATH 151 & 152	Beginning Calculus (courses are sequential)	122		8 or 9	
MATH 201	Multivariable Calculus	143 or 152		4	
MATH 205 or 505	Problem Solving	One year college math		3	
MATH 218 or 518	College Geometry	231		3	
MATH 220	Discrete Mathematics	151 or 141		3	
MATH 231 or 237	Linear Algebra	151 or 141		4	
MATH 241	Probability and Mathematical Statistics	143 or 152	143 or 152	3	
MATH 301 or 601	Abstract Algebra I	231		4	
MATH 385W (must take prior to SEYS 361 as upper junior)	Mathematical Foundations of the Secondary School Curriculum	201 and 231		4	

Students must then take either *three* or *four* additional courses as follows:

Three additional courses chosen from Lists X and Y below, of which at least **two** must be from list X.

OR

Four additional courses chosen from Lists X and Y below, of which at least **one** must be from list X.

List X

Math 305 (or 605), 310, 317 (or 617), 318 (or 618), 334 (or 634), 609, and 626

[Math 310 is recommended for those who expect to teach calculus. Also, especially recommended are 305, 317, and 318 or their graduate equivalents]

List Y

Math 202, 223, 232, 242, 245, 247, 248, 250, 255, 320, and all 500- and 600-level courses not already used to satisfy the above requirements. [Mathematics 202 is usually required for entry into master's degree programs in mathematics.]

Computer Science and Physics (2 Courses)

Course Number	Title	Credit	Date Take
CSCI 111	Introduction to Algorithmic Problem-Solving	3	
OR			
CSCI 112	Introduction to Algorithmic Problem-Solving in Java	3	
AND ONE course from below:			
CSCI 211	Object-Oriented Programming in C++	3	
CSCI 212	Object-Oriented Programming in Java	3	
PHYS 121	General Physics I (1214 + 1211)	4 + 1	
PHYS 145	Principles of Physics 1 (1454 + 1451)	4 + 1	