

The City University of New York
Articulation Agreement Between
Queensborough Community College
and
Queens College

A. Sending and Receiving Institutions

Sending Institution: Queensborough Community College (QCC)
Department: Mathematics and Computer Science
Program: Liberal Arts and Sciences (Mathematics and Science)
Degree: Associate of Science (A.S.)

Receiving Institution: Queens College (QC)
Department: Mathematics
Program: Mathematics – Pure Mathematics Option
Degree: Bachelor of Arts (B.A.)

B. Admission Requirements for Senior College Program

Minimum GPA: 2.0

To take advantage of this articulation agreement, students must complete the A.S. in Liberal Arts and Sciences (Mathematics and Science) at Queensborough Community College prior to transfer to Queens College. Upon transfer, students must declare a major in Mathematics. Math courses taken at QCC in which a D+ grade or lower was earned cannot be counted toward the mathematics major at Queens College.

The equivalencies in this agreement assume that the student has completed their Associate's degree. Course equivalency information will be entered in both the *University Course Guide* database and the Website. When the receiving college awards transfer credit for either a block of courses or for an entire program rather than for individual courses, it may not be necessary to list individual course equivalencies.

It is the responsibility of the incoming transfer student to check the current requirements for the B.A. in Mathematics at Queens College. The student is required to follow the requirements in effect at the time of his or her entrance to Queens College even if they are different from what are found in this agreement.

Total transfer credits granted toward the baccalaureate degree: 60 credits.

Total additional credits required at the Queens College to complete the B.A. degree: 60 credits.

C. Overview

The following courses are required of Pure Math majors at Queens College.

- MATH 151 Calculus/Differentiation and Integration
- MATH 152 Calculus/Integration and Infinite Series
- MATH 201 Multivariable Calculus
- MATH 202 Advanced Calculus
- MATH 231 Linear Algebra I
- MATH 310 Elementary Real Analysis
- MATH 333 Introduction to Algebraic Structures

Additionally, Pure Math majors must select 8 elective mathematics courses.

Students at QCC will complete the equivalent of MATH 151 and 152 (MA-441 and 442). They can also take MA-443 at QCC, which is the equivalent of MATH 201 at QC, and MA-461, which is the equivalent of MATH 231 at QC.

QCC also offers courses which would act as some of the 8 electives at QC. They are:

- MA-451 which is equivalent to MATH 223 at QC
- MA-471 which is equivalent to MATH 220 at QC
- MA-481 which is equivalent to MATH 241 at QC

QCC students can make their transition to QC easier by taking MA-443, MA-451, MA-461, MA-471, and MA-481 at QCC. Then when students transfer, they need only take 5 of the elective courses at QC. It may not be possible or desirable to take all of these classes at QCC. Any major or elective courses for the Pure Math major not taken at QCC must be taken at QC after transfer.

The following tables summarize what we suggest for students who plan to pursue the Pure Math degree at Queens College.

D. Course-to-Course Equivalencies and Transfer Credit Awarded

Queensborough Community College		Queens College		
Course and Title	Credit	Course and Title	Credit	Transfer Credits Awarded
Common Core Requirements		Course Equivalency		
Required Core 1A: ENGL-101 English Composition I	3	English Composition 1 and 2: ENGL 110 College Writing I	3	3
ENGL-102 English Composition II	3	ENGL 130 Writing about Literature in English	3	3
Required Core 1B: MA-440 Pre-Calculus Mathematics ²	4	Math and Quantitative Reasoning: MATH 122 Precalculus	4	4
Required Core 1C: PH-301, PH-311, or PH-421 recommended ³	4-5	Life and Physical Sciences: Equivalent Course	4-5	4-5
Flexible Core 2A: Select one course	3	World Cultures and Global Issues	3	3
Flexible Core 2B: SP-211 Speech Communication required ¹	3	US Experience in Its Diversity	3	3
Flexible Core 2C: Select one course	3	Creative Expression	3	3
Flexible Core 2D: Select one course	3	Individual and Society	3	3
Flexible Core 2E: PH-302, PH-312, or PH-422 recommended ³	4-5	Scientific World: Equivalent Course	4-5	4-5
Additional Flexible Core Course: MA-441 Analytic Geometry and Calculus I ^{1,2}	4	Additional Flexible Core Course: MATH 151 Calculus/Differentiation and Integration	4	4
Subtotal	34-36	Subtotal	34-36	34-36
Requirements for the Major³		Course Equivalency		
<u>QCC Major Electives³</u> (recommended choices)				
MA-442 Analytic Geometry and Calculus II ³	4	MATH 152 Calculus/Integration and Infinite Series	4	4
MA-443 Analytic Geometry and Calculus III	4	MATH 201 Multivariable Calculus	4	4
MA-451 Differential Equations	4	MATH 223 Differential Equations with Numerical Methods I	3	3
MA-461 Linear Algebra	4	MATH 231 Linear Algebra I	4	4
MA-471 Introduction to Discrete Mathematics	3	MATH 220 Discrete Mathematics	3	3
MA-481 Probability and Statistics	3	MATH 241 Introduction to Probability and Mathematical Statistics	3	3
		Additional Elective Credit	-	0-1
Subtotal	17-24	Subtotal	17-24	17-24
Additional Requirements		Course Equivalency		
HE-101 Introduction to Health Education or HE-102 Health, Behavior, and Society	1-2	Elective Credit	-	2
One credit in PE-100, PE-500, or DAN-100 series (one credit courses only)	1	Elective Credit	-	1
MA-119 College Algebra ² (if required)	3	Elective Credit	-	3
MA-121 Trigonometry ² (if required)	1	Elective Credit	-	1
Subtotal	2-7	Subtotal	2-7	2-7
Total	60	Total	60	60

Notes:

1. Students are required to take particular courses in some areas of the Common Core that fulfill both general education and major requirements at QCC. If students do not take the required courses in the Common Core, they will have to take additional credits to complete their degree requirements.
2. Students must complete MA-441 and all prerequisites for that course.
3. Students must complete two-course sequences in at least two different subject areas (biology, chemistry, computer science, mathematics, and physics). For students following this agreement, one two course sequence in physics (PH-301/2, PH-311/12, or PH-421/2) and one in mathematics (MA-441/2) are recommended.

All Queensborough Community College students must complete at least two writing intensive courses, designated as "WI" in the course schedule. Transfer students must take at least one writing intensive course at Queens College, designated W, but this can overlap with the College Option Literature requirement and does not add to the required number of credits.

E. Senior College Courses Remaining for Baccalaureate Degree

Course and Title	Credits
College Option General Education Courses	
One Literature Course (LIT)	3
One Language Course (LANG)	3
Subtotal	6
Major Courses ¹	
MATH 201 ² Multivariable Calculus	4
MATH 202 Advanced Calculus or MATH 207 Honors Calculus III	4
MATH 231 ² Linear Algebra I	4
MATH 310 Elementary Real Analysis	3
MATH 333 Introduction to Algebraic Structures	3
Eight elective MATH courses at the 200-, 300-, 600-, or 700-level (not including MATH 271, 272, or 385). ³ Two of the following courses may be taken to fulfill elective requirements: CSCI 111, CSCI 320, ECON 387, PHYS 242, PHYS 243, PHYS 265.	15-24 ⁵
Subtotal	33-42⁴
Additional course work to reach 120 credits	12-21⁵
Total credits to be earned at Queens College	60

Notes:

1. Students who have not completed all of the major elective courses in the Table in Part C above while at QCC must complete the remaining courses at QC.
2. Depending on choice of major electives for the A.S. degree, the equivalent of these courses may be taken at QCC prior to transfer and counted toward the B.A. in Mathematics degree.
3. It is recommended that all pure math majors take computational courses such as MATH 250 or CSCI 111. Students who aim for Honors in Mathematics or who intend to continue their studies toward an eventual M.S. or PhD degree in Mathematics are encouraged to take the more advanced and theoretical 300-, 600-, and 700-level courses.
4. At least 18 credits of required and elective courses must be taken at Queens College.
5. The number of credits depends on how many of the recommended courses you took at QCC.

Students must complete a minimum of 45 credits in residence at QC during the student's undergraduate career, and at least 30 of the last 64 credits credited toward the degree taken at Queens or the CUNY Graduate Center. Students must earn a cumulative GPA of at least 2.0 based only on work done at Queens College to graduate.

F. Summary of Credits Required

Total credits to be earned at Queensborough Community College	60
Total credits to be earned at Queens College	60
Total credits required for the B.A. degree	120

G. Articulation Agreement Follow-up Procedures

Procedures for reviewing, updating, modifying, or terminating the agreement:

This agreement will be valid for 3 academic years from the Effective Date (below). Each year, there will be a review of the agreement's effectiveness by the Academic Affairs Officers at each institution.

When any of the programs within this agreement undergo any changes relevant to this agreement, this agreement will be reviewed and revised as necessary by the Curriculum Committees of both the sending and receiving program.

Either party may independently cancel this agreement by notifying the other party no less than one academic year before the intended date of cancellation.

Procedures for evaluating agreement:

The academic department, advisement centers, and Offices of Institutional Effectiveness from each campus will keep data on the academic progress of the transfer students. Upon request, Queens College will provide Queensborough Community College with names and academic status of all recent transfer students from QCC pursuing the abovementioned bachelor's degree program.

Sending and receiving college procedures for publicizing agreement:

Queensborough Community College and Queens College will collaborate in publicizing this agreement on their websites and in their catalogs. They will share brochures and other marketing materials including web-based promotions. Transfer advisors will be made aware of this agreement and will have available all necessary materials to publicize the agreement to the students with whom they work.

Members of the Senior College Enrollment Management Division will have this agreement and attend recruitment events at the Sending Institution. They will be assisted by the Office of Academic Affairs and the Transfer Resource Center at Queensborough Community College.

Additional Information

This agreement is deemed to be consistent with the CUNY Pathways General Education curriculum, and will be updated whenever necessary in keeping with changes in the Pathways curriculum. Queens College requires 6-7 credits of additional Pathways classes as part of the College Option, which includes a literature and a language requirement, as well as two Writing Intensive (W) units, with a minimum of one in residency. Writing Units may overlap with other requirements. According to the specifics in this agreement, students will complete a minimum of 60 credits at each institution; however, students who transfer into Queens with more than 60 credits must complete at least 45 credits at Queens College to earn a Queens College degree.

Effective Date: Fall 2020

For Queensborough Community College:

For Queens College:

Timothy G. Lynch Oct 27, 2020
Timothy G. Lynch (Oct 27, 2020 10:46 EDT)

Timothy G. Lynch, Ph.D. Date
Provost and Senior Vice-President
for Academic Affairs

Elizabeth Hendrey Oct 27, 2020
Elizabeth Hendrey (Oct 27, 2020 10:48 EDT)

Elizabeth Hendrey, Ph.D. Date
Provost and Senior Vice President for
Academic Affairs

Michael Pullin Oct 27, 2020
Michael Pullin (Oct 27, 2020 11:15 EDT)

Michael Pullin, Ph.D. Date
Associate Dean of Academic
Affairs

Alicia M. Alvero Oct 26, 2020
Alicia M. Alvero (Oct 26, 2020 18:44 EDT)

Alicia Alvero, Ph.D. Date
Associate Provost

Haishen Yao Oct 26, 2020
Haishen Yao (Oct 26, 2020 17:06 EDT)

Haishen Yao, Ph.D. Date
Chair, Department of Mathematics
and Computer science

Alan Sultan Oct 26, 2020
Alan Sultan (Oct 26, 2020 17:47 EDT)

Alan Sultan, Ph.D. Date
Chair, Department of Mathematics











Queensborough to Queens College Pure Mathematics Articulation Agreement 2020 Final


Final Audit Report


2020-10-27


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