

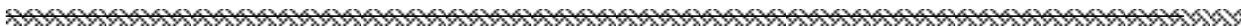


ARTICULATION AGREEMENT FORM

A. SENDING AND RECEIVING INSTITUTIONS

Sending College: Queensborough Community College/CUNY
Department: Mathematics and Computer Science
Program: Mathematics and Science
Degree: Associate of Science (A.S.)

Receiving College: New York City College of Technology/CUNY
Department: Mathematics
Program: Applied Mathematics
Degree: Bachelor of Science (B.S.)



B. ADMISSION REQUIREMENTS FOR SENIOR COLLEGE PROGRAM

- A.S. degree in Mathematics and a minimum GPA of 2.00
- Grade of C or better in all Mathematics courses
- Grade of C or better in English composition, its equivalent, or a higher-level English course

Total transfer credits granted toward the baccalaureate degree: 60

Total additional credits required at the senior college to complete baccalaureate degree: 60-63

Total credits required to complete the baccalaureate degree: 120

C. TRANSFER CREDITS AWARDED

Queensborough Community College (QCC) graduates who complete the Associate in Science (A.S.) in Mathematics will receive 60 credits toward the Bachelor of Science (B.S.) in Applied Mathematics at New York City College of Technology (City Tech)

Common Core General Education	
<i>Required Common Core</i>	
English Composition I and II	6
Mathematical & Quantitative Reasoning ¹	4
Life & Physical Science ²	4
<i>Total Required Common Core</i>	14
<i>Flexible Core</i>	
Creative Expression	3
U.S. Experiences in Its Diversity ³	3
World Culture & Global Issues ⁴	3
Individual & Society ⁴	3
Scientific World ⁵	4
One additional Flexible Core Course ⁵	4
<i>Total Flexible Core</i>	20
<i>Total Common Core</i>	34
Curriculum Requirements	
MA 441 Analytic Geometry and Calculus I	4
MA 442 Analytic Geometry and Calculus II	4
MA 443 Analytic Geometry and Calculus III	4
MA 451 Ordinary Differential Equations	4
CS 101 Algorithmic Problem Solving I	4
CS 203 Algorithmic Problem Solving II	4
HE-101 Introduction to Health Education (HE-102 Health, Behavior and Society may be substituted)	1
One course in Physical Education from PE-400 or 500 series or one course from DAN-100 series (1 credit courses only)	1
<i>Total Curriculum Credits</i>	26
<i>Total Program Credits</i>	60

¹ Required: MA 440 or higher

² Select one from: BI-201, CH-151, PH-301 or PH-311, or PH-411

³ Required: SP 211

⁴ Select one from: HI-110 (or higher), SOCY-101 (or higher)

⁵ Select one from: BI-201, CH-151 (or higher), MA-443, MA-451, MA-461, CS-101, CS-201, CS-203, PH-301 or PH-311, PH-411

D. ADVISOR RECOMMENDATIONS

Students transferring to City Tech's Applied Math Program should take MA 442, MA 443 and MA451.

E. COURSE EQUIVALENCIES

QCC Course	CityTech Course	CityTech Requirement Area
CS 101 Algorithmic Problem Solving I (4cr)*	CST 2403 Intro C++ Lang. Prog. I	Mathematics Major Foundation Course
CS 203 Algorithmic Problem Solving II (4cr)*	CST 3503 C++ Programming II	Mathematics Major Foundation Course
CS 220 Discrete Structures (3cr)**	MAT 2440 Discrete Structures and Algorithms I	Mathematics Major Foundation Course
MA 440 Pre-calculus Mathematics (4cr)	MAT 1375 Pre-Calculus	Required Common Core
MA 336 Statistics (3cr)	MAT 1372 Statistics with Probability	Scientific World
MA 481 Probability and Statistics (3cr)	MAT 2572 Probability and Mathematical Statistics I	Scientific World
MA 441 Analytic Geometry and Calculus I (4cr)	MAT 1475 Calculus I	Mathematics Major Foundation Course
MA 442 Analytic Geometry and Calculus II (4cr)	MAT 1575 Calculus II	Mathematics Major Foundation Course
MA 443 Analytic Geometry and Calculus III (4cr)	MAT 2675 Calculus III	Mathematics Major Foundation Course
MA 471 Introduction to Discrete Mathematics (3cr)**	MAT 2071 Introduction to Proofs and Logic	Math Education Requirement
MA 461 Linear Algebra (4cr)*	MAT 2580 Introduction to Linear Algebra	Mathematics Major Foundation Course
MA 451 Ordinary Differential Equations (4cr)*	MAT 2680 Diff Equations	Mathematics Major Core Course
SP 211 Speech Communications (3cr)	COMM 1330 Public Speaking	College Option Requirement
History or Social Science (3cr)	Liberal Arts Course (3cr)	College Option Requirement
HE-101 Introduction to Health Education (1cr)	Elective Credit	College Option Requirement
Physical Education (1cr)	Elective Credit	College Option Requirement

*These 4 credit courses at QCC will transfer to City Tech as the equivalent 3-credit course, plus one elective credit. One of these elective credits can be used towards College Option Requirement.

**These 3 credit courses at QCC will transfer to City Tech as the equivalent 4-credit course, minus one elective credit.

F. REMAINING SENIOR COLLEGE REQUIREMENTS FOR BACCALAUREATE DEGREE

Courses to be completed at City Tech after completing the A.S. in Mathematics at QCC.

Courses for Financial Sciences Concentration (AFB)	Credits
College Option Requirements*	
Interdisciplinary Course	3
*additional liberal arts course satisfied by major requirements	
<i>Total Common Core & College Option Requirements</i>	3
Major Requirements	
CST 1204 Database Systems	3
CST 3504 Database Design	3
ECON 1101 Macro Economics	3
ECON 2301 Money and Banking	3
MAT 2572 Probability & Statistics I	4
MAT 2440 Discrete Structures and Algorithms I	4
MAT 2580 Linear Algebra	3
MAT 2630 Applied Math Technology-- Numerical Methods	3
MAT 3672 Probability and Statistics II	4
MAT 3770 Math Modeling I (Optimization)	3
MAT 3772 Stochastic Models	3
MAT 3788 Applied Math – Applications of the Heat Equation	3
MAT 4672 Computational Statistics	3
MAT 4788 Financial Risk	3
MAT 4900 Internship I	2
MAT 4901 Internship II	2
PHYS 1441 College Physics I: Calculus Based	5
Electives to reach 120 credits	
<i>Total Curriculum Requirements</i>	
54¹	
Total Program Credits	
60¹	

Courses for Science Concentration (ASB)	Credits
College Option Requirements*	
Interdisciplinary Course	3
*additional liberal arts course satisfied by major requirements	
<i>Total Common Core & College Option Requirements</i>	3
Major Requirements	
BIO 1101 Biology I	4
BIO 2311 Human Anatomy and Physiology I	4
CHEM 1110 General Chemistry I	4
CHEM 1210 General Chemistry II	4
CHEM 2223 Organic Chemistry I	5
MAT 2440 Discrete Structures and Algorithms I	4
MAT 2572 Probability and Statistics I	4
MAT 2580 Linear Algebra	3

MAT 2630	Numerical Methods – Applied Math Technology	3
MAT 3672	Probability and Statistics II	4
MAT 3770	Math Modeling I (Optimization)	3
MAT 3772	Stochastic Models	3
MAT 3880	An Introduction to Partial Differential Equations	3
MAT 4672	Computational Statistics	3
MAT 4900	Internship I	2
MAT 4901	Internship II	2
Electives to reach 120 credits		
<i>Total Curriculum Requirements</i>		55¹
Total Program Credits		60¹

Courses for Information Sciences Concentration (AIB)		Credits
College Option Requirements*		
Interdisciplinary Course		3
*additional liberal arts course satisfied by major requirements		
<i>Total Common Core & College Option Requirements</i>		3
Major Requirements		
EET 1222	Circuit Analysis II	5
EET 1240	Electronics	4
EET 2140	Communication Electronics	3
EET 2162	Digital Electronics	3
MAT 2440	Discrete Structures and Algorithms I	4
MAT 2572	Probability and Statistics I	4
MAT 2580	Linear Algebra	3
MAT 2630	Applied Mathematics Technology - Numerical Methods	3
MAT 3770	Math Modeling I - Optimization	3
MAT 4880	Math Modeling II	3
MAT 4900	Internship I	2
MAT 4901	Internship II	2
PHYS 1441	General Physics I: Calculus Based	5
PHYS 1442	General Physics II: Calculus Based	5
TCET 2102	Analog and Digital Telephony	4
TCET 2242	Microcomputer Interfacing	3
TCET 3102	Digital and Data Communications	4
Electives to reach 120 credits		
<i>Total Curriculum Requirements</i>		60¹
Total Program Credits		63¹

¹Students that take required courses in the major as part of their common core courses at QCC can reduce the number of total credits required for the BS to 120

Note: Students at New York City College of Technology must complete two courses designated Writing Intensive (WI) for the baccalaureate level, one from GenEd and one from the major. They must also complete at least 34 credits in residence and have a GPA of 2.0 or higher in order to graduate.

Effective Date: Fall 2017