NEW YORK CITY COLLEGE OF TECHNOLOGY
OF THE CITY UNIVERSITY OF NEW YORK
300 JAY STREET • BROOKLYN
NEW YORK 11201-2983
Chemistry Department
Room P-618, Tel: (718) 260-5850

Articulation Agreement between Queensborough Community College (AS in Mathematics and Science) and New York City College of Technology (BS in Applied Chemistry)

Sending College: Queensborough Community College (QCC)
Department: Liberal Arts and Sciences Department
Program: Mathematics and Science
Degree: Associate in Science (AS)

Receiving College: New York City College of Technology (NYCCT)
Department: Chemistry Department
Program: APPLIED CHEMISTRY
Degree: Bachelor of Science (BS)

Effective: Fall 2015

B. ADMISSION REQUIREMENTS FOR SENIOR COLLEGE PROGRAM
The Chemistry Department of New York City College of Technology (NYCCT) agrees to accept into the BS program in Applied Chemistry students from Queensborough Community College (QCC) who successfully complete an associate in science in Mathematics and Science and are admitted into the college. Completion of the curriculum includes the attainment of at least a 2.0 overall grade-point average.

NYCCT and QCC agree to offer the courses noted in the BS program in Applied Chemistry (NYCCT) and the Liberal Arts and Sciences (Mathematics and Science) AS program (QCC), as described in this agreement, and as outlined in each college's course catalog. Each college agrees to notify the other if course numbers, content, or catalog descriptions change. Furthemore, the parties involved understand that any change in course number, content, or catalog description may require a modification to this agreement.

Total transfer credits granted toward the baccalaureate degree: 60-61
Total additional credits required at the senior college to complete baccalaureate degree: 60-61

C. COURSE EQUIVALENCIES AND TRANSFER CREDIT AWARDED
Students transferring from QCC with an AS in Science shall enter the BS Program in Applied Chemistry at NYCCT as third year students. The following courses, totaling 60 credits, will be transferred to NYCCT·.

Sending College	Receiving College Equivalent	Transfer Credit Granted
General Education (Liberal Arts, Core, Distribution) Courses		
IA EN 101, EN 102 - English Composition I and II	English Comp (ENG 1101, 1121)	6
IB MA 440 - Pre-Calculus	Math and Quant. Reasoning	4

Mathematics or higher	(MAT 1375)	
IC CH 151 - General Chemistry I	Life and Physical Sciences (CHEM 1110)	4
IIA HI 110, 111, or 112 Recommended	World Cultures and Global Issues	3
IIB SP 211 Speech Communication Recommended	US Experience in Diversity (COM 1330)	3
IIC Creative Expression	Creative Expression	3
IID Individual and Society	Individual and Society	3
IIE Scientific World	Scientific World	4
II Flexible core II A, B, C, D, or E BI 201 General Biology I recommended	Flexible Core II ABCD (BIO 1101 recommended)	4
		Subtotal 34
Specific Program Requirements (Including Prerequisites)		
Major Requirements		
MA 441 Analvtical Geometry and Calculus I	MAT 1475	4
CH 152 General Chemistrv II	CHEM 1210	4
CH 251 Organic Chemistrv I3	CHEM 2223	5
CH 252 Organic Chemistrv II3	CHEM 2323	5
		Subtotal 18
Additional Major Requirements		
HE 102		
Two courses from PE 400 and 500 series		
PH 411 I Calculus Phvsics I	PHYS 1441	5
	Additional transfer credit granted	3.5
		Subtotal: 8.5
		TOTAL 60.5

* Course equivalency information wilI 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.

D. SENIOR COLLEGE UPPER DIVISION COURSES REMAINING FOR BACCALAUREATE DEGREE

Course and Title
           Credits

CHEM 3222 Physical Chemistry: Thermodynamics and Kinetics	4
CHEM 3312 Analytical Chemistry	5
CHEM 3412 Instrumental Methods of Analysis	5
CHEM 3622 Inorganic Chemistry	4
CHEM 4312 Instrumental Chromatography	4
CHEM 4322 Advanced Spectroscopy	4
MAT 1575 Calculus II	4
PHYS 1442 General Physics II: Calculus Based	5
BIO 1101 Biology I	4
BIO 3601 Biochemistry	4
ENG 2575 Technical Writing	3

Internship/Research Courses

CHEM 4901 and CHEM 4902 Internship/Research in Applied Chemistry   6

Additional Recommended Courses

LIB 1201 Research and Documentation in the Information Age (IS)   3

College Option requirement (6 credits): [1]

One course in speech/ oral communication[2]   3
One interdisciplinary liberal arts and sciences course   3

Elective Credits to equal or exceed 60 credits at City Tech[3]

Choose courses from the following list to bring total number of credits to 120. The choice of electives, to be made in close consultation with the Program Coordinator or Academic Advisor, should ideally reflect the student's interests, post-baccalaureate study plans, and career goals.

Science and Mathematics Elective Courses[4]

BIO 2311 /L Anatomy and Physiology I (Lecture and Laboratory)   4
BIO 2312/L Anatomy and Physiology II (Lecture and Laboratory)   4
BIO 3302/L Microbiology (Lecture and Laboratory)   4
BIO 3350 Elements of Bioinformatics (Lecture and Laboratory)   4
BIO 3352 Bioinformatics (Lecture and Laboratory)   4
BIO 3354 Computational Genomics   3
BIO 3356 Molecular Modeling in Biology   3
BIO 3524 Nutrition   2
BIO 3526 Pathophysiology   3
BIO 3620/L Molecular and Cell Biology (Lecture and Laboratory)   4
CHEM 2411 Special Topics   3
CHEM 4822 Medicinal Chemistry   3
CST 2403 Introductory C++ Programming Language Part I   3
CST 3503 C++ Programming Part II   3
MAT 2071 Introduction to Proofs and Logic   4
MAT 2440 Discrete Structures and Algorithms I   3
MAT 2540 Discrete Structures and Algorithms II   3
MAT 2572 Probability and Mathematical Statistics I   4
MAT 2580 Introduction to Linear Algebra   3
MAT 2588 The Mathematics of Finance   3
MAT 2630 Applied Mathematics Technology--Numerical Analysis   3
MAT 2675 Calculus III   4
MAT 2680 Differential Equations   3
MAT 3021 Number Theory   4
MAT 3050 Geometry I   4
MAT 3075 Introduction to Real Analysis   4
MAT 3080 Modern Algebra   4
MAT 3672 Probability and Mathematical Statistics II   4
MAT 3770 Mathematical Modeling I - Optimization   3
MAT 3772 Stochastic Models   3
MAT 3777 Applied Mathematics: Applications of the Wave Equations   3
MAT 3787 Applied Mathematics - Finite Fields   3

MAT 3788 Applications of the Heat Equation for Financial Mathematics   3
MAT 3880 Introduction to Partial Differential Equations using Mathematical Models in Biology 3
MAT 4030 History of Mathematics   3
MAT 4050 Geometry II   3
MAT 4672 Computational Statistics with Applications   3
MAT 4788 Financial Risk Modeling   3
MAT 4872 Probability and Mathematical Statistics III   4
MAT 4880 Mathematical Modeling II   3
PHYS 2601/L Introduction to Research (Lecture and Laboratory)   3
PHYS 2603/L Physical Principles of Medical Imaging   3
PHYS 2605 Introduction to Laser Physics and Photonics   4
PHYS 2607 Introduction to Quantum Mechanics   3
PHYS 2609 Introduction to Quantum Computing   4

[1] Complete lists of liberal arts and sciences courses and advanced liberal arts courses, as well as semester-specific lists of interdisciplinary courses and writing intensive courses, are available online at the City Tech Pathways website.
[2] Students who have already met this requirement may choose any other liberal arts and science course in its place.
[3] The number of free elective credits will vary depending upon the program-specific courses students use to meet Common Core requirements.
[4] Some of these elective courses have pre-and co-requisites that should be taken as part of the flexible core and college option choices.

E. ARTICULATION AGREEMENT FOLLOW-UP PROCEDURES
1. Procedures for reviewing, updating modifying or terminating agreement:

When either of the degree programs involved in this agreement undergoes a change, the agreement will be reviewed and revised accordingly by faculty from each institution's respective departments or programs, selected by their Chairpersons and program directors.