

Articulation Agreement with LaGuardia Community College

Articulation Agreement Form

College of Agreement Initiation: City College of New York

A. SENDING AND RECEIVING INSTITUTIONS

Sending College: LaGuardia Community College
Department: Natural Sciences
Program: Biotechnology Track of Biology Program
Degree: AS

Receiving College: City College of New York
Division: Science
Program: Biotechnology
Degree: BS

Approved by Science Divisional Council 11/2/2021
Approved by CLAS Faculty Council 11/4/2021

Sending college contact for students: Dr. Na Xu (nxu@lagcc.cuny.edu)
CCNY contact for students: Dr. Chris Li (cli@ccny.cuny.edu)

B. ADMISSIONS REQUIREMENTS FOR SENIOR COLLEGE PROGRAM

2.75 overall GPA – per AS graduation requirement
3.0 minimum GPA in the science and mathematics courses from LaGuardia Community College

Total transfer credits granted toward the baccalaureate degree: 60

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

C. COURSE TO COURSE EQUIVALENCIES AND TRANSFER CREDIT AWARDED

Sending College		Receiving College Equivalent		Credits Granted
Course & Title	Credits	Course & Title	Credits	
General Education Requirements				
ENG 101 English Composition I	3	ENGL 11000 Freshman Composition	3	3
ENG 102 English Composition II	3	RCEC 10000 English Composition	3	3
World Cultures and Global Issues (elective course)	3	Perspective course	3	3
US Experience in its Diversity (elective course)	3	Perspective course	3	3
Creative Expression (elective course)	3	Perspective course	3	3
Individual and Society (elective course)	3	Perspective course	3	3
NSF101 First Year Seminar for Natural Sciences	2	General Elective credits from non-equivalent transfer credits	2	2
Mathematics	7 cr	Mathematics		7 cr
MAT115 College Algebra and Trigonometry or MAT117 Algebra and Trigonometry	3	MATH 19000 College Algebra and Trigonometry	3	3
MAT200 Precalculus I	4	MATH 19500 Precalculus/ General elective credits from non-equivalent transfer credits	3 1	3 1
Biology	15 cr	Biology		15 cr
SCB201 General Biology I	4	BIO 10100 Biological Foundations I	4	4
SCB202 General Biology II	4	BIO 10200 Biological Foundations II	4	4
SCB257 Genetics (Capstone)	4	BIO 20600 Introduction to Genetics	4	4
SCB207 Genomics and Bioinformatics	3	Biotechnology Elective	3	3
Chemistry Courses	13 cr	Chemistry		13 cr
SCC201: General Chemistry I	4	CHEM 10301: General Chemistry I	4	4
SCC202: General Chemistry II	4	CHEM 10401: General Chemistry II	4	4
SCC251: Organic Chemistry I	5	CHEM 26100: Organic Chemistry I	3	5
		CHEM 26200: Organic Chemistry Lab I	2	
SCI 204 Research in Natural Sciences OR SCB252 Fundamentals of Biotechniques	3	General Elective credits from non-equivalent transfer credits	3	3

Unrestricted elective	2	General Elective credits from non-equivalent transfer credits	2	2
Total Credits	60		60	60

D. CITY COLLEGE UPPER DIVISION COURSES REMAINING FOR BACCALAUREATE DEGREE IN BIOTECHNOLOGY

Course & Title	Credits
SPEECH 11100	3
Major Courses	
Mathematics	
MATH 20500: Elements of Calculus	4
MATH 20900: Elements of Calculus & Statistics	4
Sciences	
BIO 22900: Cell & Molecular Biology	4
BIO 48300: Laboratory in Biotechnology	5
CHEM 26300: Organic Chemistry II	3
CHEM 32002 Biochemistry I	3
PHY 20300: General Physics I	4
PHY 20400: General Physics II	4
BIO 31000 or CHEM 31000 or PHYS 31000: Independent Study	6
Biotechnology electives (others acceptable if approved by Biotechnology advisor)	8
SCI 28000 Bioinformatics & Biomolecular Systems (3 cr)	
BIO 35000 Advanced Microbiology (4 cr)	
BIO 35500 Introduction to Scientific Literature using CREATE (4 cr)	
BIO 37500 Developmental Biology (3 cr)	
BIO 37900 Developmental Neurobiology (3 cr)	
BIO 38000 Eukaryotic Genetics (3-4 cr)	
BIO 41000 Cell Development & Cellular Senescence (3 cr)	
BIO 42000 Virology (3 cr)	
BIO 42500 Cancer Biology (3 cr)	
BIO 48000 Current Topics in Microbiology (3 cr)	
BIO 48100 Epigenetics (3 cr)	
CHEM 33500 Physical Biochemistry (5 cr)	
CHEM 40600 Environmental Chemistry (3 cr)	
CHEM 48206 Journey to the Center of the Cell (3 cr)	
CHEM 48005 Biochemistry II (3 cr)	
PHYS 31500 Medical Physics (3 cr)	
PHYS 42200 Biophysics (3 cr)	
PHYS 42300 Biophysics in Applications (3 cr)	
PHYS 52200 Biomedical Physics (3 cr)	
Philosophy	
PHIL 34905 Bioethics	3
General Electives (includes language requirement if not satisfied otherwise)	9
Total	60

E. ARTICULATION AGREEMENT FOLLOW-UP PROCEDURES

1. Procedures for reviewing, up-dating, modifying or termination agreement.

2. Procedures for evaluating agreement.

The main objectives of the program evaluation are: (1) to document, interpret, and assess student, faculty, and institutional outcomes; (2) to compile evidence of how the program activities/components have led to student retention and degree attainment; and (3) to terminate the articulation agreement if the assessment measures indicate unsatisfactory performance.

In particular, the evaluation design will measure the extent to which program efforts are linked with measures of engagement and capacity, as well as the extent to which these measures are linked with student success measures (retention, credit accumulation, GPA, course success, and degree attainment). Engagement will be measured by survey data reflecting students' reported attitudes. Capacity will be measured by specific performance benchmarks, such as course passing incidences, credit accumulations, and grade point averages. It is expected that this systemic approach will result in increases in student enrollment, retention rates, and graduation rates.

a. Methods provide performance feedback/assessment of progress.

The evaluation design will include formal assessment at different points in time, with equal weight given to formative and summative evaluations. Formative evaluations will provide for mid-course corrections and on-going program improvement, based on programmatic feedback and interviews with faculty and student participants. Summative evaluations will occur at the end of each academic year to determine if specific objectives and benchmarks have been met.

b. Methods of evaluation include objective performance measures clearly related to intended outcomes and will produce quantitative & qualitative data to the extent possible.

The specific goals of this program are to increase student awareness in a new major and the opportunities in the work place after graduation. With active monitoring from faculty advisors, particularly by research mentors, we expect that student retention and completion within 6 years will be above the current overall City College graduation rate of 45.6%.

The CCAAP office will work in conjunction with the major advisor and be involved in the following assessments:

- 1) Student performance after transfer. Students who are doing poorly will be referred for tutoring.
- 2) Student retention.
- 3) Student graduation within 4 years after transfer to City College.
- 4) Student placement into biotechnology positions.

Some indicators and sources of evidence will be considered as follows:

Objective 1: Continuity

Indicators	Sources of Evidence
Curriculum and coursework integration	Faculty analysis and evaluation of student preparedness for upper-level courses at City College (transcript analysis and survey/interview review)
Curriculum Progression	Tracking record of student advisement sessions, student registration data, and transcript analysis

Objective 2: Capacity

Indicators	Sources of Evidence
Knowledge and skill acquisition (basic and more advanced)	Test results, assignment grades, course pass rates
Overall academic performance	Grade point average, credit accumulation, retention, graduation
Attitudes – knowledge/skill acquisition, academic performance, and impact of/satisfaction with capacity-building efforts	Faculty, student, tutor interviews, surveys, focus groups

If the success rate of the students transferring from LaGuardia Community College to City College is below that of students who started their studies at City College, we will need to immediately assess the basis for the differing student performance. We will initially focus on the core courses from LaGuardia Community College; the curriculum may need to be re-aligned, such that students cover the same material in similar amounts of depth between the two campuses. For courses that are giving students particular difficulty, City College CCAAP will monitor academic progress of transfer students in those courses more closely for earlier intervention, such as tutoring services. The goal is to ensure that both cohorts of students in the Biotechnology program, whether they are transfer students from LaGuardia Community College or City College students, perform equally well in upper-level courses and are retained and graduate at similar rates.

3. Sending and receiving college procedures for publicizing agreement.

The new program and articulation agreement will be advertised on each respective college's websites. In addition, information about the program will be distributed by the Natural Sciences Department at LaGuardia Community College and by the Dean's Office in the Division of Science at City College for dissemination to students. All science advisors on both campuses will also be informed about the program.

G. ASSOCIATE IN BIOTECHNOLOGY FROM LAGUARDIA COMMUNITY COLLEGE

City College General Education Requirements: 3
Remaining Core Requirements in Major: 48
City College Electives: 9

Total Credits to be earned at City College: 60
Total Credits to be earned at LaGuardia Community College: 60
Total Credits required for the BS degree: 120

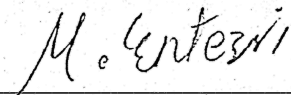
Effective Date: Fall 2022



Dr. Paul Arcario
Provost



Dr. Tony Liss
Provost



Dr. Maria Entezari
Chair, Natural Sciences



Dr. Susan Perkins
Dean of Science