#### THE CITY UNIVERSITY OF NEW YORK

## ARTICULATION AGREEMENT

between

# LAGUARDIA COMMUNITY COLLEGE PROGRAM IN COMPUTER INFORMATION SYSTEMS

and

# NEW YORK CITY COLLEGE OF TECHNOLOGY BACHELOR OF TECHNOLOGY IN COMPUTER SYSTEMS

#### A. SENDING AND RECEIVING INSTITUTIONS

**Sending Institution**: LaGuardia Community College

**Department:** Mathematics, Chairperson, Department of Computer

**Engineering and Computer Science** 

**Program:** Programming and Systems

**Degree**: Associate of Applied Science (A.A.S)

**Receiving Institution**: New York City College of Technology (City Tech)

**Department**: Computer Systems Technology

**Program**: Computer Systems

**Degree:** Bachelor of Technology (B. Tech)

### **B. REQUIREMENTS FOR SENIOR COLLEGE PROGRAM**

- 1. Requirement for students wishing to transfer to NYC College of Technology's Bachelor of Technology degree in Computer Systems under this agreement:
  - a. Associate Degree in Programming and Systems
  - b. GPA of 2.0 or above
- 2. C or better in all required computer courses related to the degree requirements in Programming and Systems
- 3. If a grade less than a C is earned in the course(s) which are equivalent to the required prerequisite courses for the BTech track of choice, the student is required to repeat the required prerequisite course(s) at City Tech and to earn a grade of C or better.
- 4. Total transfer credits granted toward the baccalaureate degree: 60 credits
- 5. Total additional credits required at the senior college to complete baccalaureate degree: <u>60-64 credits.</u>
- 6. Acceptance into this program will be under the requirements in effect at the time of admission and may be subject to such changes as shall be determined by NYC College of Technology's academic policies and curricula. To earn a baccalaureate degree, admitted students must earn a minimum of 120 credits which 34 must be taken in residence. Certification of graduation also requires a cumulative GPA of 2.0. This 2.0 GPA is also required in the major.

# C. COURSE-TO-COURSE EQUIVALENCIES AND TRANSFER CREDIT AWARDED

LaGuardia Community College Programming and Systems		NYC College of Technology		
Course Number & Title	Credits	Course Number & Title	Credits	Credits Awarded
COMMON CORE: 21 Credits	1		<u> </u>	
<b>ENGLISH COMPOSITION:</b> ENG 101 English				
Composition I (ENA101 or ENC101	3	ENG 1101 English Composition I	3	3
depending on placement scores)				
ENG102 Writing through Literature	3	ENG 1101 English Composition I	3	3
MQR: MAT115 College Algebra and	3	Mathematical and Quantitative	3	3
Trigonometry (STEM)	3	Reasoning	3	3
LPS: Select one of the following courses:				
SCB101 Topics in Biological Sciences;				
SCC101 Topics in Chemistry; SCP101	3	Life and Physical Sciences	3	3
Topics in Physics; SCP140 Topics in				
Astronomy 3				
		Three one course each from three of the five		
Flexible Core: Note: Only one course can be		categories: World Cultures and Global		
selected from any one category and select	9	Issues US Experience in its Diversity	9	9
courses from five different disciplines.		Creative Expression Individual and		
		Society Scientific World		
PROGRAM CORE: 39 Credits				
Math, Engineering, and Computer Sci	ence			
ECF090 First Year Seminar for Engineering	_			
and Computer Science	0			
MAC101 Intro to Computer Science	3	CST1100 Introduction to Computer Systems	3	3
MAC109 Intro to Visual Programming	3	CST1101 Problem Solving with Computer Programming	3	3
MAC110 Systems Analysis & Design	3	CST2406 Introduction to Systems	3	3
The state of the s		Analysis & Design		
MAC250 Database Concepts & Programming	3	CST1204 Database Systems	3	3
		Fundamentals		
OBJECT ORIENTED AND UNIX	7			
CONCENTRATION	•			
Business and Technology				
BTA 111 Principles of Accounting I	4	ACC 1101 Principles of Accounting	4	4
BTM 101 Introduction to Business	3	BUS 2425 Business Management	3	3
Math, Engineering, and Computer Sci	ence			
MAC125 Advanced C/C++ Programming	3	CST1201 Programming Fundamentals	3	3
MAC230 Comparative Operating Systems	3	Advance Standing	3	3
MAC260 Introduction to Teleprocessing	3	CST2307 Networking Fundamentals	3	3
Operations Telephocessing				
MAT 200 Pre-Calculus	4	MAT 1375 Precalculus	3	3
Select two of the following:	6-7			
MAC232 UNIX Network Operating Systems	3	CST1215 Operating Systems	3	3
, ,		Fundamentals		

MAC252 Advanced UNIX	MAC233 Windows Network Operating Systems	3	Advance Standing	3	3
MAC253 Advanced Windows		3		3	3
And Programming	MAC253 Advanced Windows	3	CST2405 System Administration	3	3
MAC293 Computer Repair and Network Maintenance  Unrestricted Elective: 1 credit Unrestricted Elective: 2 credits Unrestricted Elective: 3 credits University Advanced Computer Sys. Management Support Unrestricted Elective: 3 credits University Advanced Topics in Computer Unrestricted Elective: 3 credits University Advanced Standing University Advanced University Advanced Standing University Advanced University Advanced University Advanced University Advanced University Advanced Standing University Advanced University Advanced Standing Unrestricted Elective: 3 credits		3	,		
Total Credits 60  WEB PROGRAMMING CONCENTRATION  Business and Technology  BTM 116 Introduction to E-Business 3 Advance Standing  Humanities  HUW 111 E-Commerce Technology 3 Advance Standing  HUW166 Intro to Web Development 3 CST2309 Web Programming I 3 3 HUW167 Adv. Dynamic Web Design 3 CST2409 Web Programming II 3 3 3 HUW168 Advanced Dynamic Web Design 3 Advanced Standing 3 Advanced Standing 3 Advanced Standing 5 Advanced Topics in Computer Science  MAC270 Advanced Topics in Computer Science Select one of the following course pairs:  MAC232 UNIX Network Operating Systems CST1215 Operating System 3 STUNIX Network Operating Systems Fundamentals CST2415 System Administration (UNIX/LINUX)  or  MAC252 Advanced UNIX CST2415 System Administration 3 (UNIX/LINUX)  or  MAC265 Computer Hardware Interfacing and Programming MAC293 Computer Repair and Network Support 3 Subtotal 39 Subtotal 39	MAC293 Computer Repair and Network	4	1 1	3	3
WEB PROGRAMMING CONCENTRATION Business and Technology BTM 116 Introduction to E-Business 3 Advance Standing  Humanities HUW 111 E-Commerce Technology 3 Advance Standing HUW166 Intro to Web Development 3 CST2309 Web Programming I 3 3 3 HUW167 Adv. Dynamic Web Design 3 CST2409 Web Programming II 3 3 3 HUW168 Advanced Dynamic Web Design 3 Advanced Standing 3 3 HUW168 Advanced Topics in Computer Science  MAC270 Advanced Topics in Computer Science MAC270 Advanced Topics in Computer Science  Select one of the following course pairs:  MAC232 UNIX Network Operating Systems  MAC232 UNIX Network Operating Systems  MAC252 Advanced UNIX  CST2415 System Administration (UNIX/LINUX)  or  MAC265 Computer Hardware Interfacing and Programming MAC293 Computer Repair and Network Maintenance  Subtotal 39 Subtotal 39  Subtotal 39	Unrestricted Elective: 1 credit	0-1	CST2801 Special Topics		1
Business and Technology BTM 116 Introduction to E-Business 3 Advance Standing  Humanities  HUW 111 E-Commerce Technology 3 Advance Standing  HUW166 Intro to Web Development 3 CST2309 Web Programming I 3 3 HUW167 Adv. Dynamic Web Design 3 CST2409 Web Programming II 3 3 HUW168 Advanced Dynamic Web Design 3 Advanced Standing  Math, Engineering, and Computer Science  MAC270 Advanced Topics in Computer Science  Select one of the following course pairs:  MAC232 UNIX Network Operating Systems  CST2415 Operating System  Advanced Standing  SUBJECT OF STANDING Advanced Interfacing and Programming  Advanced Standing  3 Advanced Standing  SUBJECT OF STANDING Advanced Interfacing and Programming  Advance Standing  SUBJECT OF STANDING Advancement System Advance Standing  SUBJECT OF SUBJECT OF STANDING Advancement System Advance Standing  SUBJECT OF	Total Credits	60			60
Business and Technology BTM 116 Introduction to E-Business 3 Advance Standing  Humanities  HUW 111 E-Commerce Technology 3 Advance Standing  HUW166 Intro to Web Development 3 CST2309 Web Programming I 3 3 HUW167 Adv. Dynamic Web Design 3 CST2409 Web Programming II 3 3 HUW168 Advanced Dynamic Web Design 3 Advanced Standing  Math, Engineering, and Computer Science  MAC270 Advanced Topics in Computer Science  Select one of the following course pairs:  MAC232 UNIX Network Operating Systems  CST2415 Operating System  Advanced Standing  SUBJECT OF STANDING Advanced Interfacing and Programming  Advanced Standing  3 Advanced Standing  SUBJECT OF STANDING Advanced Interfacing and Programming  Advance Standing  SUBJECT OF STANDING Advancement System Advance Standing  SUBJECT OF SUBJECT OF STANDING Advancement System Advance Standing  SUBJECT OF	WEB PROGRAMMING CONCENTRA	TION			
BTM 116 Introduction to E-Business   3					
HUW 111 E-Commerce Technology  HUW166 Intro to Web Development  CST2309 Web Programming I  HUW167 Adv. Dynamic Web Design  CST2409 Web Programming II  Advanced Standing  HUW168 Advanced Dynamic Web Design  Advanced Standing  Math, Engineering, and Computer Science  MAC270 Advanced Topics in Computer  Science  Select one of the following course pairs:  MAC232 UNIX Network Operating Systems  MAC252 Advanced UNIX  CST2415 System Administration (UNIX/LINUX)  or  MAC265 Computer Hardware Interfacing and Programming  MAC293 Computer Repair and Network Maintenance  Subtotal 39  Subtotal 39  Subtotal 39  Subtotal 39		3	Advance Standing		
HUW 111 E-Commerce Technology  HUW166 Intro to Web Development  CST2309 Web Programming I  HUW167 Adv. Dynamic Web Design  CST2409 Web Programming II  Advanced Dynamic Web Design  HUW168 Advanced Dynamic Web Design  Advanced Standing  Math, Engineering, and Computer Science  MAC270 Advanced Topics in Computer  Science  Select one of the following course pairs:  MAC232 UNIX Network Operating Systems  MAC252 Advanced UNIX  CST2415 Operating System  CST2415 System Administration (UNIX/LINUX)  or  MAC265 Computer Hardware Interfacing and Programming  MAC293 Computer Repair and Network Maintenance  Subtotal 39  Subtotal 39  Subtotal 39	Humanities				
HUW166 Intro to Web Development 3 CST2309 Web Programming I 3 3 3 HUW167 Adv. Dynamic Web Design 3 CST2409 Web Programming II 3 3 3 HUW168 Advanced Dynamic Web Design 3 Advanced Standing 3 3 Math, Engineering, and Computer Science MAC270 Advanced Topics in Computer Science Select one of the following course pairs:  MAC232 UNIX Network Operating Systems CST1215 Operating System 3 Fundamentals		3	Advance Standing		
HUW167 Adv. Dynamic Web Design 3 CST2409 Web Programming II 3 3 HUW168 Advanced Dynamic Web Design 3 Advanced Standing 3  Math, Engineering, and Computer Science MAC270 Advanced Topics in Computer Science Select one of the following course pairs:  MAC232 UNIX Network Operating Systems CST1215 Operating System 3 Fundamentals  MAC252 Advanced UNIX CST2415 System Administration (UNIX/LINUX) or CST2415 System Administration (UNIX/LINUX)  MAC265 Computer Hardware Interfacing and Programming MAC293 Computer Repair and Network Support				3	3
HUW168 Advanced Dynamic Web Design 3 Advanced Standing 3  Math, Engineering, and Computer Science MAC270 Advanced Topics in Computer 3 Science 5  Select one of the following course pairs: CST1215 Operating System 3 Fundamentals					
MAC270 Advanced Topics in Computer Science       3       Advanced Standing         Select one of the following course pairs:       6       2         MAC232 UNIX Network Operating Systems       CST1215 Operating System Fundamentals       3         MAC252 Advanced UNIX       CST2415 System Administration (UNIX/LINUX)       3         or       Advance Standing       3         MAC265 Computer Hardware Interfacing and Programming       Advance Standing       3         MAC293 Computer Repair and Network Maintenance       CST2400 Computer Sys. Management & Support       3         Unrestricted Elective: 3 credits       3       Advance Standing       3					
MAC270 Advanced Topics in Computer Science       3       Advanced Standing         Select one of the following course pairs:       6       2         MAC232 UNIX Network Operating Systems       CST1215 Operating System Fundamentals       3         MAC252 Advanced UNIX       CST2415 System Administration (UNIX/LINUX)       3         or       Advance Standing       3         MAC265 Computer Hardware Interfacing and Programming       Advance Standing       3         MAC293 Computer Repair and Network Maintenance       CST2400 Computer Sys. Management & Support       3         Unrestricted Elective: 3 credits       3       Advance Standing       3	Math, Engineering, and Computer Sci	ence			
pairs:         MAC232 UNIX Network Operating Systems       CST1215 Operating System Fundamentals       3       3         MAC252 Advanced UNIX       CST2415 System Administration (UNIX/LINUX)       3         or       Advance Standing       3         MAC265 Computer Hardware Interfacing and Programming       Advance Standing       3         MAC293 Computer Repair and Network Maintenance       CST2400 Computer Sys. Management & Support       3         Unrestricted Elective: 3 credits       3       Advance Standing       3         Subtotal       39       Subtotal       39	• • •	3	Advanced Standing		
Fundamentals  MAC252 Advanced UNIX  CST2415 System Administration (UNIX/LINUX)  or  MAC265 Computer Hardware Interfacing and Programming  MAC293 Computer Repair and Network Maintenance  CST2400 Computer Sys. Management & Support  Unrestricted Elective: 3 credits  3  Advance Standing  3  3  Subtotal 39		6			
or  MAC265 Computer Hardware Interfacing and Programming  MAC293 Computer Repair and Network Maintenance  CST2400 Computer Sys. Management & Support  Unrestricted Elective: 3 credits  Subtotal 39  Subtotal 39  Subtotal 39	MAC232 UNIX Network Operating Systems			3	3
MAC265 Computer Hardware Interfacing and Programming       Advance Standing       3         MAC293 Computer Repair and Network Maintenance       CST2400 Computer Sys. Management & Support       3         Unrestricted Elective: 3 credits       3       Advance Standing       3         Subtotal       39       Subtotal       39	MAC252 Advanced UNIX				3
and Programming  MAC293 Computer Repair and Network Maintenance  CST2400 Computer Sys. Management & Support  Unrestricted Elective: 3 credits  3 Advance Standing  Subtotal 39 Subtotal 39	or				
MAC293 Computer Repair and Network Maintenance  CST2400 Computer Sys. Management & Support  Unrestricted Elective: 3 credits  Subtotal 39  Subtotal 39  Subtotal 39			Advance Standing		3
Subtotal 39 Subtotal 39	MAC293 Computer Repair and Network			3	3
	<b>Unrestricted Elective: 3 credits</b>	3	Advance Standing		3
	Ch4a4a1	20	Cyl. 4 a 4 a 1	20	
Total 60 Total 60					

# C. SENIOR COLLEGE COURSES REMAINING FOR BACCALAUREATE DEGREE

Course Number & Title	Credits			
General Education Requirements (College Option)				
COM 1330 (Effective Speaking, COM 1335 (Group Communication), or COM	3			
1340 (Oral Interpretation of Literature)				
One interdisciplinary Liberal Arts and Science course	3			
Gen Ed (College Option) at NYC College of Technology	6			
Domaining Doguinaments in Major				
Remaining Requirements in Major  Prerequisites and Program Requirements				
PSY 1101 Introduction to Psychology(If not taken at LaGuardia)	0-3			
MAT 2440 Discrete Structures and Algorithms I	3			
MAT 2540 Discrete Structures and Algorithms II or MAT1475 Calculus I	3 or 4			
PSY 2404 Personnel and Organizational Psychology	3			
CST 2410 Introduction to Computer Security	3			
BUS 3525 Strategic Management	3			
ENG 2575 Technical Writing	3			
Pathway Flexible Core	3			
Subtotal	21-25			
Computer Systems program-specific Degree Requirement and Electives	21-23			
Curriculum Requirements				
CST4800 Project Management	3			
CST4900 Internship or CST4905	3			
Complete One of Following Four Tracks:	3			
Database				
CST3504 Database Design	3			
CST2406 or CST3606	3			
CST3604 Quality Database Implementation	3			
CST3613 Application Development with Databases	3			
CST4704 Data Warehousing	3			
<u> </u>	3			
CST4714 Database Administration	2			
CST4724 Data On The Web	3			
*Two Major Electives	6			
Network and Security				
CS2405 or CST2415 System Administration *(Students who have				
successfully completed the equivalent courses to CST2405 AND CST2415				
at LaGuardia CC are required to choose a Bachelor Level elective				
(CST35xx, CST36xx, CST47xx) as long as this Bachelor Level elective is	2			
not required for the track of choice).  CST2507 Advenced Single LAN Concepts	3			
CST3507 Advanced Single-LAN Concepts	3			
CST3607 Interconnectivity  CST3610 Notwork Socurity Fundamentals				
CST3610 Network Security Fundamentals	3			
CST4707 The LAN-Internet Connection				
CST4710 Advanced Security Technologies	3			
CST4715 Advanced Topics in System Administration	3			

CST3523 Task Automation in System Administration	3
*One Major Elective	3
IT Operation	
CS2405 or CST2415 System Administration *(Students who have	3
successfully completed the equivalent courses to CST2405 AND CST2415	ļ
at LaGuardia CC are required to choose a Bachelor Level elective	ļ
(CST35xx, CST36xx, CST47xx) as long as this Bachelor Level elective is	ļ
not required for the track of choice).	
CST3507 Advanced Single-LAN Concepts	3
CST3610 Network Security Fundamentals	3
CST3605 Virtualization	3
CST3615 Enterprise Applications	3
CST4700 IT Service Management	3
CST4714 Database administration	3
CST4709 Installing and Maintaining Web Servers	3
*One Major Elective	3
Software Development	
CST3513 Object-Oriented Programming	3
CST3519 Advanced Client Technology	
CST3613 Application Development with Databases	3
CST3606 Object-Oriented Systems Analysis and Design	3
CST4708 Software Development and .NET Framework	3
CST2301 Multimedia and Mobile Device Programming	3
CST4713 Dynamic Web Development: Servlets and JSP	3
*Two Major Electives	6
Total Major Requirements:	33
Subtotal	33
*Major Electives	
CST 3520 Computer Forensics	
CST 4701 Game Programming	
CST 4706 Software Development Methodologies	
CST courses beginning with 35, 36, or 47	

NYC Tech General Education Requirements 6
Remaining Core Requirements in Major 21-25
Concentration/Track 33

Total Credits earned at LaGuardia CC: 60
Total Credits to be earned at NYC College of Technology: 60-64

Total Credits required for B.Tech. degree: 120-124

**Note:** Students must complete two courses designated at Writing Intensive at New York City College of Technology for the bachelor's degree. They must also satisfy the Pathways requirements of at least one course in each of the five Flexible Core areas and an additional sixth course in one of them. Students can complete no more than two courses from any one area.

**Effective date**: Fall 2017