

THE CITY UNIVERSITY OF NEW YORK
ARTICULATION AGREEMENT
between
BRONX COMMUNITY COLLEGE
CYBERSECURITY AND NETWORKING
and
NEW YORK CITY COLLEGE OF TECHNOLOGY
COMPUTER SYSTEMS

A. SENDING AND RECEIVING INSTITUTIONS

Sending Institution: Bronx Community College
Department: Engineering, Physics and Technology
Program: Cybersecurity and Networking
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. Students must complete the CUNY Transfer Application in a timely manner OR apply through direct admission. Direct admission is available one registration for the upcoming semester opens. We urge students to apply as early as possible. See [Http://www.citytech.cuny.edu/directadmissions/](http://www.citytech.cuny.edu/directadmissions/) for details. (The template used is based on CCNY which does not accept anyone by Direct Admission)
2. Requirement for students wishing to transfer to City Tech's Bachelor of Technology degree in Computer Systems under this agreement:
 - a. Associate degree in Cybersecurity and Networking
 - b. GPA of 2.0 or above
 - c. C or better in all required computer courses related to the degree requirements in Cybersecurity and Networking
 - d. If a grade less than a C is earned in the course(s) that 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.
 - e. If the student has not successfully completed (with a grade of C or better) the required prerequisite course(s) to the BTech track of choice at Bronx CC, the student will be required to successfully complete the course(s) at City Tech.
3. Total transfer credits granted toward the baccalaureate degree: 60 credits
4. Total additional credits required at the senior college to complete baccalaureate degree: 60-64 credits.
5. 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 120 credits of which 30 credits must be taken in residence at City Tech. Certification of graduation requires a cumulative GPA of 2.0. The 2.0 GPA is also required in the major.

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

Bronx Community College		NYC College of Technology		
PATHWAYS: COMMON CORE				
Course Number & Title	Credits	Course Number & Title	Credits	Credits Awarded
English Composition ENG 111 Composition and Rhetoric I ENG 112 Composition and Rhetoric II	3 3	English Composition ENG 1101 English Composition I ENG 1121 English Composition II	3 3	3 3
Mathematics and Quantitative Reasoning MTH 30 Pre-Calculus Mathematics* <i>*Students are advised to complete MTH 30 instead of MTH 23 to optimize transfer credit and reduce time to the BTech degree.</i>	4	Mathematics and Quantitative Reasoning MAT 1375 Pre-Calculus	3	3+1 elective
Life and Physical Sciences PHY 11 College Physics I	4	Life and Physical Sciences PHYS 1433 General Physics I: Algebra Based	4	4

PATHWAYS: FLEXIBLE CORE				
Individual and Society COMM11 Fundamentals of Interpersonal Communication	3	Individual and Society COM 1330 Public Speaking	3	3
Scientific World PHY 12 College Physics II	4	Scientific World PHYS 1434 General Physics II: Algebra Based	4	4
Select one course from flex core areas: World Culture & Global Issues US Experience in Its Diversity <i>Recommended: HIS 10 History of the Modern World OR HIS 11 Introduction to the Modern World</i> Creative Expression Individual & Society OR Scientific World	3-4	World Culture & Global Issues US Experience in Its Diversity Creative Expression Individual & Society OR Scientific World	3-4	3-4

NETWORKING/CYBERSECURITY REQUIREMENTS*				
Course Number & Title	Credits	Course Number & Title	Credits	Credits Awarded
CSN100 Intro to Cybersecurity	3	CST 1100 Introduction to Computer Systems	3	3
CSN105 Computer Hardware and Software	3	CST 1215 Operating Systems Fundamentals	3	3
CSN110 Network Fundamentals	3	CST 2307 Network Fundamentals	3	3
CSN120 Network Switching and Routing	3	CST 3507 Advanced Single-LAN Concepts	3	3
CSN130 Network Operating Systems I	3	CST 2405 System Administration (Windows)	3	3
CSN132 Network Operating Systems II	3	CST 2415 System Administration (UNIX/LINUX)	3	3
CSN140 Network Scripting	4	CST 1101 Problem Solving with Computer Programming	3	3+1 Elective
CSN150 Cybersecurity	4	CST 2410 Introduction to Computer Security	3	3+1 Elective
CSN160 Ethical Hacking and Network Penetration Testing	3	<i>Elective Credits</i>	3	3
CSN170 Internet and Cloud Computing	3	<i>Elective Credits</i>	3	3
CSN190 Cybersecurity Project	1	CST 2801 Special Topics in Information Technology	1	1

*BCC awards credit for certain CSN courses on the basis of non-college learning as validated by appropriate IT certifications held by CSN students. As part of this agreement, NYC College of Technology agrees to recognize this awarded credit as if it were coursework completed at BCC and grant credit for the equated course at NYC College of Technology.

ADDITIONAL BCC MAJOR REQUIREMENTS				
Course Number & Title	Credits	Course Number & Title	Credits	Credits Awarded
ART 10 Art Survey OR MUS 10 Music Survey	1	<i>Elective Credit</i>	1	1
FYS 11 First Year Seminar	1	<i>Elective Credit</i>	1	1
PEA Physical Education Activity Course	1	<i>Elective Credit</i>	1	1

D. SENIOR COLLEGE COURSES REMAINING FOR BACCALAUREATE DEGREE

ABOUT THE PROGRAM

This is the only comprehensive curriculum in CUNY that addresses the specific needs of the information technology (IT) industry by integrating theory, hands-on experience and industry exposure to applied skills through a required internship degree program component. It provides the student with the flexibility of choice in specialization areas:

- Database Systems
- Networking and Security
- IT Operation
- Software Development

The program's structures will allow for timely changes in specialization course offerings as the information technology field evolves. Learn more at: <http://www.citytech.cuny.edu/computer-systems/computer-systems-btech.aspx>

Course Number & Title	Credits
GENERAL EDUCATION REQUIREMENTS (COLLEGE OPTION)	
Liberal Arts (as COM 1330 taken at BCC) PSY1101 Introduction to Psychology recommended	3
One interdisciplinary Liberal Arts and Science course	3
Gen Ed (College Option) at NYC College of Technology	6
REMAINING REQUIREMENTS IN GEN ED	
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
Pathway Flexible Core (U.S. Experience and Its Diversity)	3
Pathway Flexible Core (Creative Expression)	3
Subtotal	15-16
REMAINING REQUIREMENTS IN MAJOR	
<i>Prerequisites and Program Requirements</i>	
The prerequisites for the BTech track of choice must be successfully completed, for example, successful completion of the CST1201 the prerequisite for the Database, Networking/Security and Software Development tracks OR successful completion of the CST2309 the prerequisite for the Software Development track.	3
BUS 3525 Strategic Management	3
ENG 2575 Technical Writing	3
Subtotal	9
Computer Systems program-specific Degree Requirement and Electives	
Curriculum Requirements	
CST 4800 Project Management	3
CST 4900 Internship or CST4905	3
COMPLETE ONE OF FOLLOWING FOUR TRACKS:	

<p>Database Track</p> <p>Prerequisites to Database Track: CST1204, CST1201, CST2406 or CST3513</p> <p>CST 3504 Database Design 3</p> <p>CST 2406 or CST3606 3</p> <p>CST 3604 Quality Database Implementation 3</p> <p>CST 3613 Application Development with Databases 3</p> <p>CST 4704 Data Warehousing 3</p> <p>CST 4714 Database Administration 3</p> <p>CST 4724 Data On The Web 3</p> <p>*Two Major Electives 6</p>	
<p>Network and Security Track</p> <p>Prerequisites to Networking and Security Track: CST1201, CST2307, CST2410 CS2405 or CST2415* (Students who have successfully completed the equivalent courses to CST2405 AND CST2415 at Bronx CC are required to choose a Bachelor Level elective (CST35xx, CST36xx, CST47xx) as long as this Bachelor Level elective is not required for the track of choice).</p> <p>CST 3507 Advanced Single-LAN Concepts 0-3</p> <p>CST 3607 Interconnectivity 3</p> <p>CST 3610 Network Security Fundamentals 3</p> <p>CST4707 The LAN-Internet Connection 3</p> <p>CST 4710 Advanced Security Technologies 3</p> <p>CST 4715 Advanced Topics in System Administration 3</p> <p>CST 3523 Task Automation in System Administration 3</p> <p>*One Major Elective 3</p>	
<p>IT Operation Track</p> <p>Prerequisites to IT Operation Track: CST2307, CST2410, CST2309 CS2405 or CST2415*(Students who have successfully completed the equivalent courses to CST2405 AND CST2415 at Bronx CC are required to choose a Bachelor Level elective (CST35xx, CST36xx, CST47xx) as long as this Bachelor Level elective is not required for the track of choice).</p> <p>CST 3507 Advanced Single-LAN Concepts 0-3</p> <p>CST 3610 Network Security Fundamentals 3</p> <p>CST 3605 Virtualization 3</p> <p>CST 3615 Enterprise Applications 3</p> <p>CST 4700 IT Service Management 3</p> <p>CST 4714 Database administration 3</p> <p>CST 4709 Installing and Maintaining Web Servers 3</p> <p>*One Major Elective 3</p>	
<p>Software Development Track</p> <p>Prerequisites to Software Development Track: CST1201, CST1204, CST2309</p> <p>CST 3513 Object-Oriented Programming 3</p> <p>CST 3519 Advanced Client Technology 3</p> <p>CST 3613 Application Development with Databases 3</p> <p>CST 3606 Object-Oriented Systems Analysis and Design 3</p> <p>CST 4708 Software Development and .NET Framework 3</p> <p>CST 2301 Multimedia and Mobile Device Programming 3</p> <p>CST 4713 Dynamic Web Development: Servlets and JSP 3</p> <p>*Two Major Electives 6</p>	
	Total Major Requirements: 33
	Subtotal 33
*Major Electives	3
CST 3520 Computer Forensics	3

CST 4701 Game Programming	3
CST 4706 Software Development Methodologies	3
CST courses beginning with 35, 36, or 47	3

NYC Tech General Education Requirements	6
Remaining Requirements in General Education	15-16
Remaining Core Requirements in Major Concentration/Track	9 33
Total Credits earned at Bronx 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 as Writing Intensive at New York City College of Technology for the bachelor degree – one in general education and one in the major. 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.

E. ARTICULATION AGREEMENT FOLLOW-UP PROCEDURES

1. Procedures for reviewing, updating, modifying or terminating agreement:

Bronx Community College faculty and NYC College of Technology faculty will review and analyze the strength of the curriculum and the success of students on an annual basis as part of annual assessment activities. Modifications will be made as required. When either of the programs undergoes changes, this articulation agreement will be reviewed and revised as necessary by appropriate faculty from each institution.

2. Procedures for evaluating the agreement, i.e., tracking the number of students who transfer under the articulation agreement and their success:

The CUNY Institutional Research Database will be used to track performance (in terms of credit accumulation and GPA) and persistence (in terms of retention and graduation) of all Bronx Community College students who transfer to CUNY senior colleges under this articulation agreement.

3. Sending and receiving college procedures for publicizing the agreement, e.g., college catalogs, transfer adviser, websites, etc.:

Bronx Community College and NYC College of Technology 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.