

Letter of Articulation
between
York College
of the
City University of New York
and
Borough of Manhattan Community College
of the
City University of New York

York College agrees to accept into the Bachelor of Science degree program in Computer Science students from Borough of Manhattan Community College who successfully complete the Computer Science curriculum described below (see Section B for course equivalencies), thereby receiving an Associate in Science degree. Successful completion of the Computer Science curriculum at Borough of Manhattan Community College includes the attainment of at least a 2.0 overall grade-point average.

Borough of Manhattan Community College and York College agree to present the courses noted in the Computer Science curriculum described below as outlined in each of the colleges' catalogs, and agree to notify each other if curriculum requirements, course numbers, content or catalog descriptions change. Furthermore, the parties involved understand that any change in curriculum requirements, course number, and content or catalog description may require a modification to this agreement.

It is also understood that the Department of Computer Information Systems at Borough of Manhattan Community College will identify Borough of Manhattan Community College students who wish to participate in the articulation, and will recommend the Computer Science program at York College to those who successfully complete the Computer Science curriculum.

Date: September 24, 2002

Borough of Manhattan Community College
The City University of New York

Section A

Computer Science Program
Leading to the Associate in Science (A.S) degree

<u>General Requirements</u>	<u>Credits</u>	
ENG 101	English Composition I	3
ENG 201	English Composition II	3
SPE 100	Fundamental of Speech	3
	(SPE 102 satisfies this requirement for students whose first language is not English)	
XXX xxx	Music or Art	1
XXX xxx	Social Science	3
	(Choose a course in anthropology, economics, geography, history, philosophy, political science, psychology, sociology, or an Ethnic Studies social science course in one of the above categories).	
Total General Credits		13

<u>Curriculum Credits</u>		<u>Credits</u>
CSC 110	Computer Programming I	4
CSC 210	Computer Programming II	4
CSC 230	Discrete Structures	3
CSC 310	Assembler Language and Architecture I	3
CSC 330	Data Structures I	3
CSC 410	Assembler Language and Architecture II	3
CSC 430	Data Structures II	3
* MAT 200	Introduction to Discrete Mathematics (Elementary Algebra, MAT 051, and Intermediate Algebra, MAT 056, are pre- requisites for MAT 200.)	4
MAT 301	Analytic Geometry and Calculus II (MAT 206 is a pre-requisite for MAT 301.)	4
MAT 302	Analytic Geometry and Calculus II	4
MAT 303	Analytic Geometry and Calculus III	4
PHY 215	University Physics I	4
PHY 225	University Physics II	4
Total Curriculum Credits		47
Total Program Credits		60

* Effective Spring 2003 MAT/CSC 470 Mathematical Foundations of Computer Networking 4 credits replaces MAT 200 in the BMCC Computer Science curriculum

**Computer Science Program at
Borough of Manhattan Community College
Course Equivalency Listing for
York College Computer Science Degree**

Section B

General Requirements			General Requirements *		
Course	Description	Crs.	Course	Description	Crs.
ENG 101	English Composition I	3	ENG xxx	Elective	3
ENG 201	English Composition II	3	ENG 125	Introduction to College Writing	3**
SPE 100	Fundamentals of Speech	3	SPCH 101	Oral Communication in Contemporary Society	3
XXX xxx	Music or Art (Art 110, 210,220,801 or 802 or Mus 110, 220,230 or 811)	1	MUS xxx Or FA xxx		1
XXX xxx	Social Science	3	Any		3
	Total General Credits	13		Total General Credits	13
Curriculum Requirements			Curriculum Requirements		
CSC 110	Computer Programming I	4		Elective	4
CSC 210	Computer Programming II	4	CS 172	Introduction to Computing	4
CSC 230	Discrete Structures	3	Mat 225	Discrete Mathematical Structures	3
CSC 310	Assembler Language & Architecture I	3	CS 397	Assembly Language Programming	3
CSC330	Data Structures I	3	CS 291	Introduction to Data Structures	3
CSC 410	Assembler Language & Architecture II	3		Elective	3
CSC 430	Data Structures II (Grade of C or better required)	3	CS 341	Data Structures II	3
MAT 470	Mathematical Foundations of Computer Networking***	4	CS 461	Network Computing	4
MAT 301	Analytic Geometry & Calculus I	4	Math 121	Analytic Geometry & Calculus I	4
MAT 302	Analytic Geometry & Calculus II	4	Math 122	Analytic Geometry & Calculus II	4
MAT 303	Analytic Geometry & Calculus III	4	Math 221	Analytic Geometry & Calculus III	4
PHY 215	University Physics I	4	PHY 151	University Physics I	4
PHY 225	University Physics II	4	PHY 152	University Physics II	4
	Total Curriculum Credits	47		Total Curriculum Credits	47
	Total Program Credits	60		Total Program Credits	60

* The York College Core (42-51 credits) is waived for transfer students with an A.S. in computer science.

** A student can only transfer the number of credits earned at BMCC

*** This course is counted as a CS major elective and therefore reduces the major elective credits to 7-8.

**Courses/Credits Remaining for the
York College B.S. Degree in Computer Science**

Note: Students transferring from BMCC with an A.S. in Computer Science must take the following additional courses to meet the York College Computer Science major requirements.

CS Major Requirements (20 credits)		
All of the following courses must be completed:		Prerequisites:
CS 357 Principles of Programming Languages	4	CS 341 Data Structures II
CS 451 Operating Systems	4	CS 397 Assembly Language Programming
CS 457 Automata and Computability	4	CS 291 Introduction to Data Structures
CS 485 Computer Architecture	4	CS 397 Assembly Language Programming
Math 210 Probability & Statistics	4	Math 122 Analytic Geometry & Calculus II
Total CS Required Credits:	20	
CS Elective Requirements (7-8 credits)		
Select 7-8 Credits from the following list (at least 8 credits must be in CS):		Prerequisites:
CS 334 Computer Graphics	3	CS 341 Data Structures II/Math 225 Discrete Math
CS 377 Artificial Intelligence	3	CS 341 Data Structures II/Math 225 Discrete Math
CS 381 Software Development	4	CS 291 Introduction to Data Structures
CS 382 Software Engineering	3	CS 381 Software Development
CS 391 Object-Oriented Programming	4	CS 291 Introduction to Data Structures
CS 392 Database Systems	4	CS 341 Data Structures II
CS 452 UNIX Operating System	3	CS 451 Operating Systems
CS 461 Network Computing**	4	CS 291 Introduction to Data Structures
CS 465 Cryptography & Network Security	3	CS 291 Introduction to Data Structures
CS 491-492 Advanced Topics in Information Systems/Computer Science	2	Various
Math 230 Number Theory	4	Math 122 Analytic Geometry & Calculus II
Math 241 Combinatorial Geometry	4	Math 122 Analytic Geometry & Calculus II
Math 332 Modern Algebra	4	Coreq: Math 333 Linear Algebra
Math 333 Linear Algebra	4	Math 221 Analytic Geometry & Calculus III
Math 335 Mathematical Logic	4	Math 122 Analytic Geometry & Calculus II
Math 395 Numerical Analysis	4	Math 222 Differential Equations
Total Elective Credits:	7-8	
Writing 301 or 302 or 303	3	
General Electives	29-30	
Total Elective Credits	60	

** BMCC students receive credit for this course when MAT/CSC 470 is completed at BMCC.