ARTICULATION AGREEMENT FORM

A. SENDING AND RECEIVING INSTITUTIONS

Sending College: Borough of Manhattan Community College
Department: Science
Program: Engineering Science
Degree: Associate in Science (A.S.)

Receiving College: Vaughn College
Department: Engineering and Technology
Program: Mechatronics
Degree: Bachelors of Science (B.S.)

The purpose of this agreement between Borough of Manhattan Community College (BMCC) and Vaughn College is:

- to promote easy and efficient transfer of associate degree graduates from BMCC to Vaughn College;
- to provide information about junior and senior year requirements to students and advisors at BMCC;
- To attract qualified students to Borough of Manhattan Community College and Vaughn College;
- to facilitate communication between chairpersons, program directors, and deans at BMCC and their counterparts at Vaughn College.

B. ADMISSION REQUIREMENTS FOR SENIOR COLLEGE PROGRAM

- Associate degree graduates from BMCC, who satisfy the minimum GPA requirements (2.5 or better) will be admitted into the BS Mechatronics program at Vaughn College, and will be deemed to have satisfied Vaughn College's core and proficiency requirements as specified in this agreement.
- Courses transferred will receive full credit awarded by Vaughn College as shown in the accompanying table.
- Associate Degree graduates admitted under this agreement into Vaughn College will normally be able to complete the requirements for a Bachelor's Degree in four semesters of full-time work if the suggested course sequence is followed.

Total transfer credits granted toward the baccalaureate degree: 62
Total additional credits required at the senior college to complete baccalaureate degree: 72
Total credits required at the senior college to complete baccalaureate degree: 134

C. TRANSFER CREDIT AWARDED

Borough of Manhattan Community College graduates who complete the Associate in Science (A.S) degree in Engineering Science will receive up to 62 credits toward the Bachelor of Science (B.S) degree in Mechatronics at Vaughn College of Aeronautics and Technology.

Engineering Science Curriculum, AS

Common Core	
Required Common Core	
English Composition	6
Mathematical & Quantitative Reasoning[1]	3
Life & Physical Sciences[2]	3
Total Required Common Core	12
Flexible Core	
Creative Expression	3
World Culture & Global Issues	3
U.S. Experience in Its Diversity[3]	3
Individual & Society	3
Scientific World[4]	6
Total Flexible Core	18
Total Common Core	30
Curriculum Requirements	
ESC 111 – Elements of Engineering Design	1
ESC 113 – Computer Aided Analysis for Engineering	2
MAT 302 - Analytic Geometry & Calculus II	4
MAT 303 – Analytic Geometry & Calculus III	4
MAT 501 – Ordinary Differential Equations	3
PHY 215 – University Physics I	4
PHY 225 – University Physics II	4
Curriculum Electives: Choose 9 credits from[5] – CHE 230, CHE 240, ESC 130, ESC 131, ESC 201, ESC 202, ESC 211, ESC 221, ESC 223, GLY 210, MAT 315, PHY 240	9
General Electives[6]	4
Total Curriculum Credits	35
Total Program Credits	65

[1]Students are required to take MAT 301.

[2] Students are required to take CHE 201.

[3] Students are advised to take POL 100 for transfer to Vaughn College.

[4] Students are required to take CHE 202 AND SCI 120 or SCI 121.

[5] Students who plan to transfer to the Mechatronic program at Vaughn College are advised to take ESC 130, ESC 201, ESC 202, ESC 211 And PHY 240.

[6] These credits can be satisfied by taking STEM variants in the Common Core

D. COURSE EQUIVALENTS

BMCC	Vaughn College of Technology
ESC 111 Engineering Design and Analysis (1)	MCE 101 Intro to Robotics (1)
ESC 130 Engineering Graphics (2)	CDE 117 Eng. Graphics CAD/Solid Edge (2)
ESC 201 Engineering Mechanics I (3)	MEE 115 Engineering Mechanics I (3)
ESC 202 Engineering Mechanics II (3)	MEE 215 Engineering Mechanics II (3)
ESC 211 Thermodynamics (3)	MEE 210 Thermodynamics (3)
CHE 201 College Chemistry I (4)	CHE 231 Gen Chemistry (3)
MAT 301 Analytic Geometry & Calculus I (4)	MAT 125 Calculus I for Engineers (3)
PHY 215 University Physics I (4)	PHY 125 Engineering Physics I (4)
PHY 225 University Physics II (4)	PHY 225 Engineering Physics 2 (4)
PHY 240 Modern Physics (3)	PHY 335 Modern Physics (3)
MAT 302 Analytic Geometry & Calculus II (4)	MAT 225 Calculus 2 for Engineers (3)
MAT 303 Analytic Geometry & Calculus III (4)	MAT 330 Calculus 3 for Engineers (3)
MAT 501 Ordinary Differential Equations (3)	MAT 325 Engineering Mathematics (3)
ENG 101 English Composition I (3)	ENG 110 English 1 (3)
ENG 201 English Composition II (3)	ENG 120 English 2 (3)
SPE 100 Fundamentals of Speech (3)	ENG 290 Public Speaking (3)
POL 100 American Government (3)	POL 254 American Government (3)
Appropriate Gen Ed (9 credits)	Appropriate Gen Ed (9 credits)
FYE Freshman Year Experience	FYI 101 Freshman Year Initiative (3) (Students will complete Title IV workshop at Vaughn)

E. REMAINING CREDITS FOR THE BACCALAUREATE DEGREE

Courses	Credits
MEE 345 Fluid Mechanics	3
MAT 410 Linear Algebra	3
MAT 356 Probability and Statistics	3
CDE 385 Introduction to CATIA 1	2
ELE 117 DC/AC Circuits	3
MEE 220 Strength of Materials	4
CD 101 Career Development Seminar	0
MEE 340 Computational Methods in Engineering	3
ELE 220 Electronic Circuits	3
MCE 310 Fundamentals of Mechatronic Engineering	2
EGR 375 Thermo-Fluid Lab	1
MEE 440 Heat Transfer	3
EGR 380 Engineering Project Management	3
MEE 365 Elements of Machine Design and Vibration Analysis	3
MEE 230 Mechanical Testing and Evaluation Lab	1
ELE 230 Digital Systems Design	3
MCE 410 Mechatronics 1	2
ELE 350 Control Systems I	3
MEE 235 Materials Science and Failure Analysis	3
Technical Elective	3
ENG 240 Technical Writing	3
MCE 401 Pre Capstone Project	1
ELE 326 Microprocessors	3
MCE 420 Mechatronics 2	2
MEE 355 Reliability Methods in Structural Analysis	3
EGR 460 Engineering Economics	3
MEE 370 Finite Element Analysis	3
MCE 409 Senior Project	3
Total credits to be completed at Vaughn College	**72**
Total credits required for the baccalaureate degree	**134**

F. 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 representatives from each institution's respective departments, selected by their chairpersons/program directors.

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

Each semester Vaughn College of Aeronautics and Technology will provide BMCC the following information: a) the number of BMCC students who applied to the program; b) the number of BMCC students who were accepted into the program; c) the number of BMCC students who enrolled; and d) the aggregate GPA of these enrolled students.

3. Sending and receiving college procedures for publicizing agreement, e.g., college catalogs, transfer advisers, Websites, etc.:

This articulation agreement will be publicizing on the BMCC website, and on Vaughn College website. Transfer advisors at BMCC will promote this agreement with eligible students.

G. Additional Information (e.g., financial aid, transfer scholarships)

Vaughn commits to dedicating specific scholarships to BMCC students accepted through this articulation agreement. Vaughn will provide a minimum of $3000/yr. scholarship to BMCC students accepted through this articulation agreement who have achieved a 3.0 average or better. Vaughn will offer additional funds to those students who demonstrate high academic achievement.

Effective Date: Spring 2018