

**MEMORANDUM OF AGREEMENT
BETWEEN
SUNY BROOME COMMUNITY COLLEGE
AND
THE STATE UNIVERSITY OF NEW YORK AT BINGHAMTON**

CONTINUATION OF A TRANSFER ARTICULATION AGREEMENT

PARTIES

This document consists of an agreement between the State University of New York, an educational corporation organized and existing under the laws of the State of New York, and having its principal place of business located at H. Carl McCall SUNY Building, Albany, New York 12246, for and on behalf of the State University of New York at Binghamton (hereinafter, Binghamton University), located at 4400 Vestal Parkway East, Binghamton, New York and SUNY Broome Community College (hereinafter, SUNY Broome), located at 907 Front Street, Binghamton, New York.

PURPOSE

- To facilitate the transition of graduates from the Associate in Science in Engineering Science degree program at SUNY Broome to a Bachelor of Science degree program in Computer Engineering, Electrical Engineering, Industrial and Systems Engineering, or Mechanical Engineering from Watson College at Binghamton University.
- To attract qualified students to both SUNY Broome and Binghamton University.
- To provide information to ensure appropriate advisement for students from faculty and staff at both SUNY Broome and Watson College at Binghamton University.
- To encourage academic coordination between the faculty and advisors at the two institutions, including curricular reviews.
- To assess and exchange information on the specific outcomes of this articulation program with the goal of continual improvement.

ARTICLES OF UNDERSTANDING

Binghamton University recognizes students from SUNY Broome who complete an Associate in Science degree in Engineering Science and then wish to pursue and earn a Bachelor of Science degree in: Computer Engineering, Electrical Engineering, Industrial and Systems Engineering, or Mechanical Engineering from Watson College at Binghamton University.

IMPLEMENTATION

- 1) Eligibility: Under the provisions of this document, all SUNY Broome students who have graduated or who will graduate prior to enrollment at Binghamton University with an Associate in Science in Engineering Science degree with a cumulative grade point average of at least a 3.0 will be welcomed as matriculated, undergraduate engineering students in Watson College, provided that all engineering transfer admissions criteria are met, including all prerequisite courses outlined in the appendices, and sufficient capacity exists for the engineering program to which the student applies.

- 2) Admissions Requirements: All required application materials should be received by Binghamton University by February 15 for fall admission. Students who intend to complete the bachelor of science degree in four standard, full-time semesters must enter in a fall semester, having completed all prerequisites required for their desired program. Binghamton University shall have final authority on admission decisions and is under no obligation to accept any students at any time.

Application Forms and requirements for application and admission are available at <https://www.binghamton.edu/admissions/undergraduate/apply/transfer/> including additional requirements for International Applicants and Educational Opportunity Program (EOP) applicants.

- 3) Degree Requirements: Bachelor's degrees in Engineering require successful completion of the required number of credit hours and a minimum 2.0 GPA. Only students who complete all requirements for a bachelor's degree in a degree program will be awarded the degree in that program. Students who do not achieve the required minimum grades or who choose to enroll for fewer courses in one or more semesters may take longer to complete the degree program. An articulation guide for Computer Engineering can be found in Appendix 1. An articulation guide for Electrical Engineering can be found in Appendix 2. An articulation guide for Industrial and Systems Engineering can be found in Appendix 3. An articulation guide for Mechanical Engineering can be found in Appendix 4.
- 4) Articulation Guides: The articulation guides in Appendices 1-5 describe the requirements for the Bachelor of Science programs in engineering in Watson College. The articulation guides also provide information about approved Binghamton University transfer course equivalencies that should be taken within the first two years of study at SUNY Broome to fulfill University General Education and/or Watson College requirements.
- 5) Residence Requirement: In order to fulfill Binghamton University's residence requirement, undergraduate engineering students must complete at least 30 credits taken entirely in Watson College, while at Binghamton University.
- 6) Examination Credits: Credits awarded through programs including Advance Placement (AP), International Baccalaureate (IB) and College Level Examination Program (CLEP) will also be considered for transfer based upon official proof of minimum required scores. Any credits a student would like to count toward their degree program must be sent to Binghamton University directly from the original awarding source. Exam scores must be sent to Binghamton University electronically, directly from the exam providers.
- 7) Notification of Changes: Each party hereby agrees to notify the other in the event of substantive changes in a course, programs, or policies at its institution that would have an impact on this agreement, including the courses and provisions herein. SUNY Broome shall notify Watson College anytime that course syllabi and/or contents are significantly altered, or if new courses should be reviewed for equivalency. Substantive changes to degree programs at Binghamton University will be reflected in the University Academic Guide, and due notification shall be made to SUNY Broome. All such notification shall be made as early as reasonable.

GENERAL PROVISIONS

- 1) Non-Discrimination Policy: Neither party shall discriminate on the basis of race, color, national origin, religion, creed, age, disability, sex, gender identity, gender expression, sexual orientation, familial status, pregnancy, predisposing genetic characteristics, military status, domestic violence victim status, or any other characteristic protected by applicable state or federal law. Furthermore, the parties hereby certify that they have institutional policies or practices (including training for employees) that prohibit harassment of, or discrimination against, individuals on the basis of their protected status under state and federal anti-discrimination laws and also provide a means for individuals to bring allegations of discrimination forward for redress.
- 2) Agreement Term and Renewal: This renewable agreement will be in operation initially for a period of five years starting from the Effective Date, defined here as the date of last signature. Thereafter, any renewals will require a new agreement signed by both parties.
- 3) Amendment: This MoA may be amended through mutual consent of the parties in writing.
- 4) Termination: The agreement may be terminated by either party without penalties by providing prior written notice given to the other party at least one year in advance. Such termination must not affect current students.

For purposes of written notification:

To BINGHAMTON UNIVERSITY

Binghamton University
Thomas J. Watson College of Engineering & Applied Science
Office of the Dean
PO Box 6000
Binghamton, NY 13902-6000

To SUNY BROOME COMMUNITY COLLEGE

SUNY Broome Community College
Associate in Science in Engineering Science Program Supervisor
PO Box 1017
Binghamton, NY 13902

- 5) Conflict Resolution: The Parties hereto shall carry out all the activities under this agreement in good faith. In case of disagreement, the Parties agree to make every reasonable effort to resolve such dispute directly and willingly through their Presidents or designees.
- 6) No Third-Party Beneficiaries: Nothing in this Agreement shall be construed to create a legal right in any student participant or other third party to enforce its terms or to subject either party to liability for any failure to comply with its terms.
- 7) Governing Law: All activities conducted under the Agreement must be conducted in accordance with the laws, rules, and regulations applicable to each institution, including confidentiality and privacy laws.

- 8) No party shall assign this Agreement or any of its rights and obligations hereunder without the prior written consent of the other party.

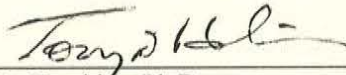
MERGER

This Agreement, including Appendices 1, 2, 3, and 4, constitutes the entire Agreement between the Parties. No waiver, consent, modification, or change of terms of this Agreement, except for the articulation guides, will bind either Party unless in writing and signed by both Parties. The articulation guides may be adjusted based on individual student's interests and their needs. Such waiver, consent, modification, or change if made will be effective only in the specific instance and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement.

Signature page to follow.

SIGNATURES

IN WITNESS WHEREOF, the Parties to this Agreement by the signatures below of their authorized representatives, acknowledge having read and understood the Agreement and agree to be bound by its terms and conditions.



Tony D. Hawkins, Ph.D.
President
SUNY Broome Community College



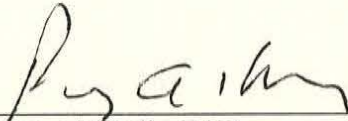
Anne D'Alleva, Ph.D.
President
Binghamton University

Feb. 12, 2020

Date

Feb. 12, 2020

Date



Penny A. Kelly, Ed.D.
Vice President for Academic Affairs
SUNY Broome Community College



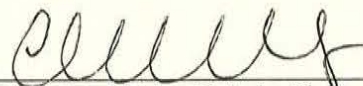
Donald E. Hall, Ph.D.
Executive Vice President for
Academic Affairs and Provost
Binghamton University

Feb. 12, 2020

Date

Feb. 12, 2020

Date



Christine Martey-Ochola, Ph.D.
Associate Vice President and Dean of
STEM and Workforce Development
SUNY Broome Community College



Atul Kelkar, Ph.D.
Dean, Thomas J. Watson College of
Engineering and Applied Science
Binghamton University

Feb. 12, 2020

Date

Feb. 12, 2020

Date

Appendix 1: SUNY Broome – Binghamton University Articulation Guide Computer Engineering

Fall - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 224/225	Differential Calculus/Integral Calculus (M)	MAT 181
CHEM 111	Chemical Principles (L)	CHM 145**
EDD 103	Engineering Communications I	ENG 110
EDD 111	Introduction to Engineering Design	EGR 150
	General Ed. Elective (G, D, A, N, H)	See Notes*
	Physical Activity/Wellness (Y, S, B)	Wellness

Spring - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 226/227	Integ Tech & App/Infinite Series	MAT 182
PHYS 131	General Physics I, Calculus-Based	PHY 181
EDD 104	Engineering Communications II (J)	ENG 111 or ENG 220
EDD 112	Introduction to Engineering Analysis	EGR 151
	General Ed. Elective (G, D, A, N, H)	See Notes*
	Physical Activity/Wellness (Y, S, B)	Activity

Fall - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 324	Ordinary Differential Equations	MAT 282
PHYS 132	General Physics II, Calculus-Based	PHY 182
CS 211	Programming I for Engineers	CST 127
EECE 251	Digital Logic Design	EGR 290***
EECE 281	EECE Seminar I	EGR 101 & 200

Spring - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 261	Probabilistic Systems I	MAT 260
EECE 260	Electric Circuits	EGR 285
EECE 212	Linear Algebra & Engr. Programming	MAT 264
EECE 287	Sophomore Design	EGR 289***

Fall - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 314	Discrete Math	MAT 250
EECE 301	Signals and Systems	
EECE 315	Electronics I	
EECE 351	Digital Systems Design	
EECE 382	EECE Seminar II	

Spring - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
CS 212	Programming II for Engineers	CST 138 or CST 202
EECE 359	Computer Comm and Networking	
EECE 387	Design Lab	
	General Education Elective (G, D, A, N, H)	See Notes*

Fall - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
EECE 487	Senior Project I (O)	
EECE 486	Senior Project I Lab	
CS 311	Operating Systems Concepts	
	Technical Elective I	
	General Education Elective (G, D, A, N, H)	See Notes*

Spring - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
EECE 488	Senior Project II	
EECE 489	Senior Project II Lab	
	Technical Elective II	
	Professional Elective I	MAT 281****
	General Education Elective (A, D, G, H, N)	See Notes*

Notes:

* For more information on General Education Course requirements, please see SUNY Broome and/or Watson College Academic Advisors.

** Computer Engineering students at Binghamton University take CHEM 111, which is equivalent to CHM 145 & CHM 146. However, only CHM 145 is required to transfer into the Computer Engineering major. Other majors may require both CHM 145 and CHM 146.

*** EGR 289 is normally taught in the fall and EGR 290 is normally taught in the spring at SUNY Broome

**** MAT 281 (Calculus III) is not a required course, but can be used as a professional elective for the COE major.

Look Up What Coursework Transfers to Binghamton University:

<https://www.binghamton.edu/admissions/apply/transfer/coursework.html?collegeID=2048>

Courses are listed in the semesters in which they are offered at Binghamton University.

Curriculum is subject to change - please check with the Watson Advising Office for updated guidesheets:

<https://www.binghamton.edu/watson/student-services/advising/index.html>

Appendix 2: SUNY Broome – Binghamton University Articulation Guide Electrical Engineering

Fall - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 224/225	Differential Calculus/Integral Calculus (M)	MAT 181
CHEM 111	Chemical Principles (L)	CHM 145**
EDD 103	Engineering Communications I	ENG 110
EDD 111	Introduction to Engineering Design	EGR 150
	General Ed Elective (G, D, A, N, H)	See Notes*
	Physical Activity/Wellness (Y, S, B)	Wellness

Spring - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 226/227	Integ Tech & App/Infinite Series	MAT 182
PHYS 131	General Physics I, Calculus-Based	PHY 181
EDD 104	Engineering Communications II (J)	ENG 111 or ENG 220
EDD 112	Introduction to Engineering Analysis	EGR 151
	General Ed. Elective (G, D, A, N, H)	See Notes*
	Physical Activity/Wellness (Y, S, B)	Activity

Fall - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 324	Ordinary Differential Equations	MAT 282
PHYS 132	General Physics II, Calculus-Based	PHY 182
CS 211	Programming I for Engineers	CST 127
EECE 251	Digital Logic Design	EGR 290***
EECE 281	EECE Seminar I	EGR 101 & EGR 200

Spring - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 261	Probabilistic Systems I	MAT 260
EECE 212	Linear Algebra & Engr. Programming	MAT 264
EECE 260	Electric Circuits	EGR 285
EECE 287	Sophomore Design	EGR 289***

Fall - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 323	Calculus III	MAT 281
EECE 301	Signals & Systems	
EECE 315	Electronics I	
EECE 332	Semiconductor Devices	
EECE 382	EECE Seminar II	

Spring - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
EECE 323	Electromagnetics	
EECE 361	Control Systems	
EECE 377	Communications Systems	
EECE 387	Design Lab	
	Professional Elective I	

Fall - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
EECE 487	Senior Project I (O)	
EECE 486	Senior Project I Lab	
	Technical Elective I	
	General Ed. Elective (G, D, A, N, H)	See Notes*
	General Ed. Elective (G, D, A, N, H)	See Notes*

Spring - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
EECE 488	Senior Project II	
EECE 489	Senior Project II Lab	
	Technical Elective II	
	Professional Elective II	
	General Ed. Elective (G, D, A, N, H)	See Notes*

Notes:

* For more information on General Education Course requirements, please see SUNY Broome and/or Watson College Academic Advisors.

** Electrical Engineering students at Binghamton University take CHEM 111, which is equivalent to CHM 145 & CHM 146. However, only CHM 145 is required to transfer into the Electrical Engineering major. Other majors may require both CHM 145 and CHM 146.

*** EGR 289 is normally taught in the fall and EGR 290 is normally taught in the spring at SUNY Broome

Look Up What Coursework Transfers to Binghamton University:

<https://www.binghamton.edu/admissions/apply/transfer/coursework.html?collegeID=2048>

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Appendix 3: SUNY Broome – Binghamton University Articulation Guide Industrial and Systems Engineering

Fall - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 224/225	Differential Calculus/Integral Calculus (M)	MAT 181
CHEM 111	Chemical Principles (L)	CHM 145 & CHM 146
EDD 103	Engineering Communications I	ENG 110
EDD 111	Introduction to Engineering Design	EGR 150
	General Ed Elective (G, D, A, N, H)	See Notes*
	Physical Activity/Wellness (Y, S, B)	Wellness

Spring - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 226/227	Integ Tech & App/Infinite Series	MAT 182
PHYS 131	General Physics I, Calculus-Based	PHY 181
EDD 104	Engineering Communications II (J)	ENG 111 or ENG 220
EDD 112	Introduction to Engineering Analysis	EGR 151
	General Ed. Elective (G, D, A, N, H)	See Notes*
	Physical Activity/Wellness (Y, S, B)	Activity

Fall - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 324 or MATH 323	Ordinary Differential Equations or Calculus III	MAT 282 or MAT 281
PHYS 132	General Physics II, Calculus-Based	PHY 182
ME 273	Statics	EGR 281
ISE 231	Human Factors	<i>Taken after transfer</i>
ISE 295	Seminar Course	<i>Taken after transfer</i>

Spring - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 211	Engineering Economics	EGR 260
ISE 261	Probabilistic Systems I	MAT 260
	General Ed. Elective (G, D, A, N, H)	See Notes*
	General Ed. Elective (G, D, A, N, H)	See Notes*

Fall - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 311	Enterprise Systems	
ISE 314	Computer Programming for Engineers	
ISE 362	Probabilistic Systems II & DOE	
MATH 304	Linear Algebra	MAT 264

Spring - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 212	Engineering Computing	CST 127** or CST 138
ISE 320	Optimiz & Operations Research I	
ISE 363	Quality Engineering	
	General Ed. Elective (G, D, A, N, H)	See Notes*

Fall - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 420	Optimiz & Operations Research II	
ISE 421	Modeling and Simulation	
ISE 470	Industrial Automation & Ctrl	
ISE 491	Systems Engineering Design	

Spring - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ISE 492	Systems Design Project	
	Technical Elective	EGR 289**
	Technical Elective	
	Technical Elective	

Notes:

* For more information on General Education Course requirements, please see SUNY Broome and/or Watson College Academic Advisors.

** EGR 289 and CST 127 are normally taught in the fall at SUNY Broome

Look Up What Coursework Transfers to Binghamton University:

<https://www.binghamton.edu/admissions/apply/transfer/coursework.html?collegeID=2048>

Courses are listed in the semesters in which they are offered at Binghamton University.

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Appendix 4: SUNY Broome – Binghamton University Articulation Guide Mechanical Engineering

Fall - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 224/225	Differential Calculus/Integral Calculus (M)	MAT 181
CHEM 111	Chemical Principles (L)	CHM 145 & CHM 146
EDD 103	Engineering Communications I	ENG 110
EDD 111	Introduction to Engineering Design	EGR 150
	General Ed. Elective (G, D, A, N, H)	See Notes*

Spring - Year 1

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 226/227	Integ Tech & App/Infinite Series	MATH 182
PHYS 131	General Physics I, Calculus-Based	PHY 181
EDD 104	Engineering Communications II (J)	ENG 111 or ENG 220
EDD 112	Introduction to Engineering Analysis	EGR 151
	General Ed. Elective (G, D, A, N, H)	See Notes*

Fall - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 323	Calculus III	MAT 281
PHYS 132	General Physics II, Calculus-Based	PHY 182
ME 212	ME Programming	<i>Taken after transfer**</i>
ME 273	Statics	EGR 281
	General Ed. Elective (G, D, A, N, H)	See Notes*

Spring - Year 2

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
MATH 324	ODEs for Sci/Engrs	MAT 282
ME 211	Solid Mechanics	EGR 283
ME 274	Dynamics	EGR 282
ME 381	Computer-Aided Engineering (w/ lab)	MET 211
EECE 260	Circuits (w/ lab)	EGR 285
	Physical Activity/Wellness (Y, S, B)	Wellness

Fall - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ME 303	Engineering Computational Methods	
ME 331	Thermodynamics	
ME 362	Science of Engineering Materials	EGR 284
ME 363	Engineering Materials Lab	
ME 392	ME Design	
	General Ed. Elective (G, D, A, N, H)	See Notes*

Spring - Year 3

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ME 351	Fluid Mechanics	
ME 364	Manufacturing & Mats Process	
ME 391	Measurements & Instrumentation (w/ lab)	
ME 421	Mechanical Vibrations	
ME 484	Design of Mechanical Elements	

Fall - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ME 424	Control Systems in ME	
ME 441	Heat Transfer	
ME 491	ME Lab	
ME 493	Senior Project I	
ME 498	Senior Project I Lab	
	ME Elective	

Spring - Year 4

Binghamton University Courses		SUNY Broome Courses
Course	Name	Transfer Course
ME 494	Senior Project II	
ME 499	Senior Project II Lab	
	ME Elective	
	Technical Elective	EGR 289
	Technical Elective	
	General Ed. Elective (G, D, A, N, H)	See Notes*

Notes:

* For more information on General Education Course requirements, please see SUNY Broome and/or Watson College Academic Advisors.

** ME 212 is offered most summers online through BU - check the schedule of classes for information

Look Up What Coursework Transfers to Binghamton University:

<https://www.binghamton.edu/admissions/apply/transfer/coursework.html?collegeID=2048>

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