

Articulation Agreement of Academic Programs

Between

Bunker Hill Community College and Bridgewater State University

The above institutions hereby enter into an agreement to facilitate the transfer of students enrolled in the Associate in Science Degree program in Electrical Engineering Transfer Option and Engineering Transfer Option at Bunker Hill Community College into the Bachelor of Science Degree program in Photonics and Optical Engineering at Bridgewater State University.

Bridgewater State University's designated representative will be the Director of Transfer Services and Bunker Hill's representative will be the Coordinator of Enrollment, Transfer and Articulation.

Bridgewater State University Approval



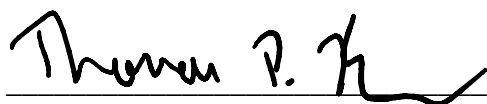
Mr. Frederick W. Clark Jr., Esq.
President



Dr. Karim Ismaili
Provost & Vice President of Academic Affairs



Dr. Kristen Porter-Utley, Dean
Bartlett College of Science & Mathematics



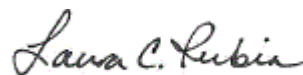
Dr. Thomas Kling
Chairperson & Professor of Physics

August 12, 2021
Date

Bunker Hill Community College Approval



Dr. James Canniff
Provost & Vice President



Dr. Laura Rubin
Dean of Science, Engineering and Math



Dr. Jo De Lavine
Assistant Dean of Science, Engineering and Math



Erik Siggelkoe
Chairperson & Associate Professor of
Engineering and Physical Sciences

Objectives:

1. To attract qualified students to Bunker Hill Community College and Bridgewater State University.
2. To promote and facilitate an efficient transition of transfer students between institutions.
3. To provide specific information and guidelines for transfer students.
4. To encourage academic coordination and cooperation, including curricular reviews, on-site visits, and joint academic advising for students attending Bunker Hill Community College.

Stipulations:

1. Bridgewater State University guarantees acceptance of Bunker Hill Community College students who complete the Associate of Science in Electrical Engineering Transfer Option and Engineering Transfer Option with an overall GPA of 2.5. as outlined in this document.
2. The maximum number of transfer credits from a two-year institution are 69.

Note: The General Education Foundational STEM Block refers to a set of core (general education) requirements, consisting of 28 college-level credits. Students must obtain an **associate degree** to qualify for this program and must be in a **STEM A2B Mapped Pathway** (Computer Science, Biology, Environmental, Engineering, Mathematics, Chemistry, Physics). The 28-credit Gen Ed Foundation STEM Block allows community college students to take more **STEM** courses while earning their associate degrees, with the receiving institution being able to add no more than twelve additional credits/four courses. Bridgewater requires a spoken communication, logical reasoning, Behavioral or Social Science and Humanities or Fine Arts. Students who satisfy this requirement through transfer credits do not have to take additional courses.

Mutual Responsibilities:

1. Both institutions agree to maintain current listings of the course equivalencies. This will be the responsibility of the two designated representatives.
2. Bunker Hill Community College and Bridgewater State University will incorporate a summary of this agreement into official publications and web sites.
3. Bunker Hill Community College and Bridgewater State University agree to encourage qualified students to participate in this program by providing information, advising and other assistance required to foster a seamless transition from the two-year institution to the four-year institution.

Review/Revision:

Both institutions will review this articulation agreement every three years unless substantive changes in the courses or program of either institution necessitate an earlier review. Revisions will be implemented with one-year notice prior to termination of the agreement.

2. Every three years, upon review of this agreement, Bridgewater State University shall provide

Bunker Hill Community College with data on Bunker Hill Community College transfer students in the Photonics & Optical Engineering program to determine the success rates for Bunker Hill Community College students who transfer to Bridgewater State University. Data to be shared includes the following:

- Number of BHCC students who transferred to BSU pursuing the program identified in this agreement.
- Date of enrollment at BSU
- Date of Degree Completion
- Cumulative grade point average

Note: This data shall not contain any personal identifying information and will be used solely for the purposes described. Except for the Data Recipient of BHCC, the Coordinator of Enrollment, Transfer and Articulation, the data shall not be shared or made available to any unauthorized personnel or other third party unless otherwise specified in this agreement.

Articulation Agreement

Summary of Benefits:

- Guaranteed acceptance with a minimum G.P.A. of 2.5
- Tuition Reduction with minimum G.P.A. of 3.0
- Guaranteed transfer of credits of all courses with a C- or better
- Guaranteed benefits of the General Education Foundation STEM Block.
- Students transfer with Junior status with regard to financial aid and registration eligibility.

Article A: Course articulations for A.S. Electrical Engineering

BHCC: A.S. in Electrical Engineering Transfer Option	Credit(s)	BSU: Photonics & Optical Engineering Program	Credit(s)
Semester 1=17 credits			
ENR 101 Intro to Engineering/Lab	4	Free Elective	4
ENG 111 College Writing I	3	ENGL 101 Writing Rhetorically	3
MAT 281 Calculus I	4	MATH 161 Calculus I*	4
GenEd-CCC Community & Cultural Contexts	3	Core requirement (STEM Block) Social & Behavioral Sciences	3
GenEd-CW Creative Work	3	Core requirement (STEM Block) Humanities	3
Semester 2=18 credits			
PHY 251 College Physics I/Lab	4	PHYS 243 General Physics I*	4
ENG 112 College Writing II	3	ENGL 102 Writing Rhetorically w/Sources	3
MAT 282 Calculus II	4	MATH 162 Calculus II*	4
Career Elective: Suggest CHM 201 General Chemistry I/Lab (BSU req.)	4	CHEM 141 General Chemistry I*	4
GenEd-E General Education Elective (Suggest Social Sciences)	3	Core requirement (STEM Block) Social & Behavioral Sciences	3
Semester 3=19 credits			
ENR 271 Circuit Design & Analysis I/Lab	4	Free Elective	4
PHY 252 College Physics II/Lab	4	PHYS 244 General Physics II*	4
MAT 283 Calculus III	4	MATH 261 Multivariable Calculus*	4
Career Elective: Suggest CSC 120 Introduction to Comp Sci and Object Oriented Programming or CSC 237 C+++ Computer Programming to fulfill BSU req.	4	PHYS 422 Computer Simulations*	3
Semester 4=16 credits			
ENR 272 Circuit Design & Analysis II/Lab	4	PHOE Senior Elective*	4
ENR 275 Digital Logic Systems/Lab	4	PHOE 342 Digital Devices*	4
MAT 285 Differential Equations	4	MATH 316 Differential Equations*	3
Career Elective: CHM 202 General Chemistry II/Lab	4	CHEM 142 General Chemistry II*	4
Total Credits	67	Total Credits	67

*Courses required within the B.S. Photonics Optical Engineering at BSU.

Article A Continued: Courses to be completed at BSU from A.S. Electrical Engineering

Semester 5--Credits = 15		
PHOE 301	Foundations of Photonics and Optical Engineering	4
PHOE 330	Fiber Optic Communications	4
PHYS 416	Modern Theory	3
PHYS 438	Electricity and Magnetism	4
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Semester 6--Credits = 14		
PHOE 323	Optical Engineering	4
PHOE 450	PIC Design	3
PHYS 211	Machine Shop	1
STEM Block Requirement	One course in Humanities, Social Science, Logical Reasoning or Spoken Communication	3
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Semester 7--Credits = 15		
PHOE 455	Advanced Optics	3
PHOE 403	Semiconductor Devices	3
PHOE 483	Senior Design I	3
PHOE ---	Senior PHOE Elective	3
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Semester 8--Credits = 14		
PHOE ---	Senior PHOE Elective	4
PHOE 484	Senior Design II	3
PHOE 420	Laser Engineering	4
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Article B: Course Articulations for A.S. Engineering Transfer Option

BHCC: A.S. in Engineering Transfer Option	Credit(s)	BSU: Photonics & Optical Engineering Program	Credit(s)
Semester 1=17 credits			
ENR 101 Intro to Engineering/Lab	4	Free Elective	4
ENG 111 College Writing I	3	ENGL 101 Writing Rhetorically	3
MAT 281 Calculus I	4	MATH 161 Calculus I*	4
GenEd-CCC Community & Cultural Contexts (Behavioral / Social Science)	3	Core requirement (STEM Block) Social & Behavioral Sciences	3
GenEd-E General Education Elective (Recommend course in Arts or Hum)	3	Core requirement (STEM Block) Humanities	3
Semester 2=18 credits			
PHY 251 College Physics I/Lab	4	PHYS 243 General Physics I*	4
ENG 112 College Writing II	3	ENGL 102 Writing Rhetorically w/Sources	3
MAT 282 Calculus II	4	MATH 162 Calculus II*	4
CHM 201 General Chemistry I/Lab	4	CHEM 141 General Chemistry I	4
Semester 3=18 credits			
ENR 260 Engineering Statics	3	PHOE Senior Elective *	3
PHY 252 College Physics II/Lab	4	PHYS 244 General Physics II*	4
MAT 283 Calculus III	4	MATH 261 Multivariable Calculus*	4
Career Elective: Suggest CSC 120 Introduction to Comp Sci and Object Oriented Programming or CSC 237 C+++ Computer Programming to fulfill BSU requirement	4	PHYS 422 Computer Simulations*	3
GenEd-CW Creative Work (Humanities)	3	Core requirement (STEM Block) Humanities	3
Semester 4=18 credits			
ENR 265 Engineering Dynamics	3	Free Elective	3
ENR 270 Strength of Materials	3	Free Elective	3
MAT 285 Differential Equations	4	MATH 316 Differential Equations*	3
CHM 202 General Chemistry II/Lab	4	CHEM 142 General Chemistry II*	4
Career Elective: ENR 271 Circuit Design & Analysis I/Lab	4	Free Elective	4
Total Credits	68	Total Credits	68

*Courses required within the B.S. Photonics Optical Engineering at BSU.

Article B Continued: Courses to be completed at BSU from A.S. Engineering

Semester 5--Credits = 18		
PHOE 301	Foundations of Photonics and Optical Engineering	4
PHOE 330	Fiber Optic Communications	4
PHYS 416	Modern Theory	3
PHYS 438	Electricity and Magnetism	4
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Semester 6--Credits = 15		
PHOE 323	Optical Engineering	4
PHOE 450	PIC Design	3
PHOE 342	Digital Devices	4
PHYS 211	Machine Shop	1
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Semester 7--Credits = 15		
PHOE 455	Advanced Optics	3
PHOE 403	Semiconductor Devices	3
PHOE 483	Senior Design I	3
PHOE ---	Senior PHOE Elective	3
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

Semester 8--Credits = 14		
PHOE ---	Senior PHOE Elective	4
PHOE 484	Senior Design II	3
PHOE 420	Laser Engineering	4
STEM Block Requirement	One course in: Humanities, Social Science, Logical Reasoning or Spoken Communication	3

General Education Foundation STEM Block:

Benefits for students who complete approved associate degrees under General Education Foundation STEM Block are:

Minimum Final GPA	Benefits
2.0 GPA	No admission fee or essay; Guaranteed, full transfer of credits applied to the bachelor's degree (including D – 1.0 grades); and Automatic satisfaction of the general education requirements at the receiving institution, with the receiving institution able to add no more than twelve additional credits/four courses, if admitted.
2.5 GPA	All of the above benefits, plus guaranteed admission
3.0 GPA	All of the above benefits, plus a 100% tuition waiver

Note: If the student changes his or her major or if the linked baccalaureate program requires a higher-grade point average or specific courses which are required of native students, the STEM Foundational Block student must meet these requirements. If because of space or fiscal limitations the receiving institution does not admit all qualified applicants to a given major or program, the receiving institution will use the same criteria for STEM applicants as it does for its native students.

In keeping with the General Education Foundation STEM Block:

- As a participant in the *MassTransfer* Program, the Bridgewater State University application fee is waived when students complete the BSU online application.
- Developmental courses and courses with D- will not transfer.
- All **STEM Block** requirements must be met prior to enrollment at Bridgewater State University.
- The grade “D” will be accepted toward the Baccalaureate Degree but will be credited toward the major only if a “D” grade will count for native students who began at BSU.
- If the student maintains a 3.0 GPA for the first year at the transfer institution, he or she will receive 100% tuition waiver for the second year of attendance (4 consecutive semesters).

Please note some of these courses may overlap with major requirements.

Credits	Subject Areas
6	<u>Behavioral and social sciences</u>
6	<u>Humanities and fine arts</u>
7	<u>Natural or physical science</u>
6	<u>English composition/writing</u>
3	<u>Mathematics/quantitative reasoning</u>