

MILLERSVILLE UNIVERSITY OF PENNSYLVANIA

and

UNIVERSITY OF DELAWARE

PROGRAM ARTICULATION AGREEMENT

**Baccalaureate Degree
(BA or BS Physics)**

**Master's Degree
(Materials Science and Engineering)**

March 3, 2020 – February 28, 2025

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BACCALAUREATE-MASTER'S PROGRAM AGREEMENT

between

Millersville University of Pennsylvania

and

University of Delaware

for

BA or BS in Physics

and

Master's in Materials Science and Engineering

AGREEMENT

WHEREAS Millersville University of Pennsylvania and the University of Delaware are committed to enabling qualified students to receive both a liberal and technical education and, in so doing, provide the Commonwealth of Pennsylvania, the State of Delaware and the Nation with more broadly educated engineers and scientists, and

WHEREAS the two institutions are committed to providing a smooth transition for students wishing to earn both baccalaureate and Master's degrees, and

WHEREAS the two institutions better serve the educational growth of students and the economic development of the region through cooperative educational planning and optimal utilization of regional resources, and

WHEREAS the intent of the two institutions is to support the educational progress of exceptional students in the Department of Physics at Millersville University of Pennsylvania and to increase regional participation in the Department of Materials Science and Engineering at the University of Delaware,

BE IT HEREWITH RESOLVED that this agreement commits the partners to establish a connected 3 + 2 degree program between related academic programs offered by the two institutions that enables students to earn a bachelor's degree and a master's degree in five years.

PROVISIONS OF THE AGREEMENT

1. This program articulation agreement applies to Millersville University of Pennsylvania baccalaureate (BA or BS) Physics degree and the University of Delaware Master's in Materials Science and Engineering (MMSE) degree.
2. The institutions agree to follow the connected program curriculum delineated in this document, which will allow qualified students to earn a Baccalaureate Physics degree from Millersville University of Pennsylvania and an MMSE degree from the University of Delaware.
3. Both educational institutions will cooperate toward developing, disseminating, and presenting the program information to students.
4. Students will be accepted into the MMSE degree program at the University of Delaware under these conditions: completion of all articulated credits (94 credits) at Millersville University of Pennsylvania; earning a minimum cumulative GPA of 3.2; obtaining a minimum GRE Quantitative score of 155 or obtaining a minimum score of 300 on the combined (Quantitative + Verbal) GRE exam; and three excellent letters of recommendation from faculty or scholars. Upon the sole discretion of the Materials Science and Engineering department at the University of Delaware, those who fail to meet the stated requirements may still be offered admission based upon other appropriate strengths.
5. All articulated course credits earned at the University of Delaware with a grade of C or better will be accepted by Millersville University of Pennsylvania for transfer and credit toward the appropriate Baccalaureate Physics degree at Millersville University of Pennsylvania according to their program matrix. Millersville University of Pennsylvania requires 120 credits for the Physics degree, and therefore, 26 credits will typically need to be transferred from the University of Delaware to meet this requirement.
6. Students intending to transfer should complete the Graduate Admissions application for the University of Delaware by the completion of the fifth semester of their Baccalaureate degree program at Millersville University of Pennsylvania.
7. Students are subject to all specific policies pertaining to students admitted to the MMSE graduate program at the University of Delaware. This will be governed by the rules of the non-thesis option. Matriculated students will be assigned an academic advisor at the University of Delaware upon matriculation.
8. Students are subject to all the policies and procedures of both institutions and the specific policies of this connected degree program, including applying for graduation at Millersville University of Pennsylvania. Students must have earned the Baccalaureate degree from Millersville University of Pennsylvania prior to applying for graduation at the University of Delaware.

9. Millersville University of Pennsylvania will provide a letter when the baccalaureate degree requirements have been met. This letter will be required in order for the students to file an Application for Advanced Degree for the MMSE at Delaware. Students will provide, via Millersville University of Pennsylvania, an official transcript to the University of Delaware Office of Graduate and Professional Education once the baccalaureate physics degree has been awarded.
10. This agreement is based on the present curricula contained in this document and it is effective as of the date of the final signature and shall remain in place through June 30, 2024. This agreement may be terminated by either party with at least three months' notice. In such an event, students already accepted into the program by the date of termination will be permitted to progress through the program.
11. Both institutions reserve the right to modify their individual degree programs as deemed necessary and agree to communicate specific curriculum changes to the department chairs and/or their designees at either the sending (MU) or receiving (UD) institution.
12. Changes made to the Millersville University of Pennsylvania Physics curriculum articulated in this document will be evaluated by the Department of Materials Science and Engineering at the University of Delaware to ensure the suitability of any curriculum changes for the connected degree program. Any such changes by Millersville University of Pennsylvania and acceptance of those changes by the University of Delaware will be documented in an addendum to this agreement.
13. Should curriculum changes be made to the MMSE degree program at the University of Delaware, the Department of Materials Science and Engineering will make a good faith effort to honor the curriculum that was in effect at the time of a student's admission to the program.
14. Neither Millersville University of Pennsylvania nor the University of Delaware has any financial responsibilities to this program. Students who apply to this program are responsible for all tuition, fees, and living expenses that are applicable to their curriculum and enrollment. For students seeking financial assistance, since the undergraduate degree will actually come from Millersville University, and these students will not have completed the coursework for that undergraduate degree when matriculating with the University of Delaware, any financial aid received during the 4th year when undergraduate coursework is still underway, would have to be processed and disbursed by Millersville University and through a Consortium Agreement, subsequently paid to the University of Delaware where the student will be completing that coursework. Once the undergraduate degree has been completed, any application for financial aid while enrolled with the University of Delaware, will need to be completed through the University of Delaware, Office of Student Financial Services.

15. The parties agree to continue their respective policies of nondiscrimination based on Title VI of the Civil Rights Act of 1964 in regard to sex, age, race, color, creed, and national origin, Title IX of the Education Amendments of 1972 and other applicable laws, as well as the provisions of the Americans with Disabilities Act.
16. The relationship between the parties to this Agreement to each other is that of independent contractors. The relationship of the parties to this contract to each other shall not be construed to constitute a partnership, joint venture or any other relationship, other than that of independent contractors.
17. This Agreement is not intended to and does not create any contractual rights or obligations with respect to the signatory agencies or any other parties. Any dispute arising hereunder shall be submitted to the Presidents of the respective universities for final resolution.
18. This Agreement represents the entire understanding between the parties. This Agreement shall only be modified in writing with the same formality as the original Agreement.

CONNECTED DEGREE CURRICULUM Suggested Course Sequence

Bachelor's Degree Program: BA or BS Physics, MU

Master's Degree Program: MMSE, UD

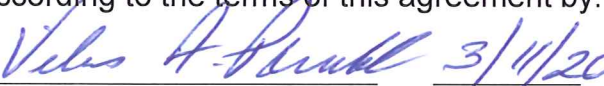

Millersville University of PA	CR	University of Delaware	CR
FIRST SEMESTER (fall)		SEVENTH SEMESTER (fall)	
List all courses by number and complete title and credits in appropriate semesters			
MATH 161 Calculus I	4	MSEG 608: Structure and Prop. of Materials I	3
CHEM 111 Intro Chemistry I	4	MSEG 803: Equilibria in Materials Systems	3
ENGL 110 Intro Composition	3	{MSEG 640: Applied Quant. Mech. I (Hard mat.)	3
UNIV 103 Freshman Seminar	3	{Or	
WELL 175 Wellness	3	{Technical Elective (soft materials/composites)	3
SECOND SEMESTER (spring)		MSEG Seminar Series	0
PHYS 231 Physics I with Calculus	5		
MATH 211 Calculus II	4	EIGHTH SEMESTER (spring)	
CHEM 112 Intro Chemistry II	4	{Technical Elective}	3
COMM 100 Fund of Speech	3	{MSEG 841: Solid State Materials I (hard mat.)	3
		{Or	
		{Technical Elective (soft mat/comp)	3
THIRD SEMESTER (fall)		Technical Elective (All)	3
PHYS 232 Physics II with Calculus	5	MSEG Seminar Series	0
MATH 311 Calculus III	4		
Gen Ed Course (D)	3	NINTH SEMESTER (fall)	
Gen Ed Course (G1)	3	MSEG 804: Kinetics in Materials Systems	3

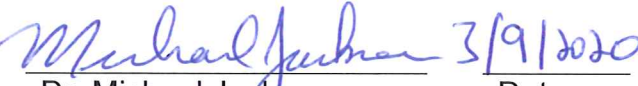

		{MSEG 835: Principles to Polymer Physics	3
FOURTH SEMESTER (spring)		{Or	
PHYS 233 Theory Wave/Part	3	{Technical Elective (hard mat)	3
PHYS 266 Electronics	3	Technical Elective (All)	3
PHYS 334 Macro/Thermodyn	3	MSEG Seminar Series	0
MATH 365 Ordinary Differential Equations	3		
Gen Ed Course (P)	3	TENTH SEMESTER (spring)	
FIFTH SEMESTER (fall)		{MSEG 832: Principles of Polymerization (soft mat/comp)	3
PHYS 311 Mechanics I or PHYS 321 Electromag. Fields I	3	{Or	
PHYS 471 Quantum Mechanics	3	{MSEG 817: Composite Materials (comp.)	3
PHYS 351 Intermediate Lab I	1	{Or	
PHYS 492 Research & Seminar	2	{Technical Elective (hard. mat.)	3
Gen Ed Course (G1)	3	MSEG Seminar Series	0
Gen Ed Course (G1)	3		
SIXTH SEMESTER (spring)			
PHYS 312 Mechanics II or PHYS 322 Electromag. Fields II	3		
PHYS 498 Ind. Study/Research	1		
ENGL 3XX Advanced Writing	3		
Gen Ed Course (G1)	3		
Gen Ed Course (G3)	3		
Gen Ed Course (G3)	3		
Credit Total	94	Credit Total (non-thesis)	30
Notes:			

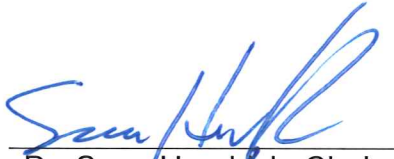
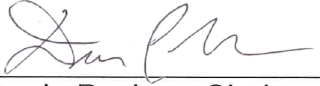
APPROVAL

This program articulation agreement is between Millersville University of PA (BA or BS Physics program) and the University of Delaware (MMSE program).

Approval is granted for a five-year term from March 3, 2020 through February 28, 2025, according to the terms of this agreement by:

 Date	 Date
Dr. Vilas A. Prabhu, Provost & Vice President for Academic Affairs	Dr. Robin Morgan, Provost

 Date	 Date
Dr. Michael Jackson, Dean College of Science and Technology	Dr. Levi T. Thompson, Dean, College of Engineering, and Elizabeth Inez Kelley Professor, Chemical & Biomolecular Engineering

 Date	 Date
Dr. Sean Hendrick, Chair Physics	Dr. Darrin Pochan, Chair Materials Science and Engineering