

**MILLERSVILLE UNIVERSITY OF PENNSYLVANIA  
and  
UNIVERSITY OF DELAWARE**

**PROGRAM ARTICULATION AGREEMENT**

**Baccalaureate Degree  
(BA Physics)**

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

**BACCALAUREATE-MASTER'S PROGRAM AGREEMENT****between****Millersville University of Pennsylvania  
and  
University of Delaware****for a connected degree program****(BA Physics)/(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,

**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 degree program between related academic programs offered by the two institutions.

## PROVISIONS OF THE AGREEMENT

1. This program articulation agreement applies to Millersville University of Pennsylvania BA 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 BA 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 in the BA Physics degree program at Millersville University of Pennsylvania, who have completed five semesters (or 94 credits) of their baccalaureate degree program and who (1) hold a cumulative grade point average of 3.2 or higher; (2) have obtained a GRE quantitative score of at least 155 and a combined score (quantitative + verbal) of at least 300; and (3) submit three excellent letters of recommendation from faculty or scholars, will generally be accepted into the MMSE degree program at the University of Delaware. Those who fail to meet those requirements are not necessarily precluded from admission if they offer 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 BA Physics degree at Millersville University of Pennsylvania, according to the program matrix. Millersville University of Pennsylvania requires 120 credits for the BA 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 admissions application for the University of Delaware by the completion of the fifth semester of their Baccalaureate degree program at Millersville University of Pennsylvania or upon earning 94 credits of approved courses for the program.
7. Matriculation of students accepted into the MMSE degree program at the University of Delaware will require that the student successfully completes all articulated credits (minimum of 94) at Millersville University of Pennsylvania with academic performance that maintains the standards set for admission.
8. 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.

9. Students are subject to all the policies and procedures of both institutions and the specific policies of this connected degree program. This includes applying for graduation at Millersville University of Pennsylvania once the BA degree requirements are met and before applying for graduation at the University of Delaware.
10. Millersville University of Pennsylvania will provide a letter when the BA 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. Millersville University of Pennsylvania will provide an official transcript to the University of Delaware Office of Graduate and Professional Education once the BA has been awarded.
11. 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, 2018. This agreement may be renewed by the mutual agreement of the parties and 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.
12. 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.
13. Changes made to the Millersville University of Pennsylvania BA 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.
14. 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.
15. 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. Any application for financial aid during enrollment at the University of Delaware will need to be completed through the University of Delaware Office of Financial Aid.

## CONNECTED DEGREE CURRICULUM Suggested Course Sequence

Bachelors Degree Program: BA Physics, MU

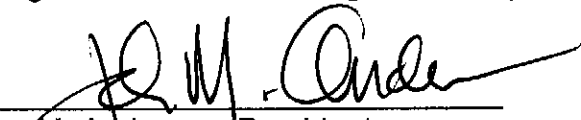
Master's Degree Program: MMSE, UD

Millersville University of PA	CR	UNIVERSITY OF DELAWARE	CR	
<b>FIRST SEMESTER (fall)</b>		<b>SEVENTH SEMESTER (fall)</b>		
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. (Hard mat.)	3
UNIV 103	Freshman Seminar	3	{Or	
WELL 175	Wellness	3	{Technical Elective (soft materials/composites)	3
<b>SECOND SEMESTER (spring)</b>		MSEG Seminar Series		0
PHYS 231	Physics I with Calculus	5		
MATH 211	Calculus II	4	<b>EIGHTH SEMESTER (spring)</b>	
CHEM 112	Intro Chemistry II	4	MSEG 609: Structure and Prof. of Materials II	3
COMM 100	Fund of Speech	3	MSEG 804: Kinetics in Materials Systems	3
			Technical Elective (all tracks)	3
			MSEG Seminar Series	0
<b>THIRD SEMESTER (fall)</b>				
PHYS 232	Physics II with Calculus	5	<b>NINTH SEMESTER (fall)</b>	
MATH 311	Calculus III	4	{MSEG 832: Polymer Synthesis (soft mat/comp)	3
Gen Ed Course (D)		3	{Or	
Gen Ed Course		3	{MSEG 841: Solid State Materials I (hard mat.)	3
			Technical Elective (All tracks)	3
<b>FOURTH SEMESTER (spring)</b>		Technical Elective (All tracks)		3
PHYS 233	Theory Wave/Part	3	MSEG Seminar Series	0
PHYS 266	Electronics	3		
PHYS 334	Macro/Thermodyn	3	<b>TENTH SEMESTER (spring)</b>	
MATH 365	Ordinary Differential Equations	3	{MSEG 835: Polymer Physics	3
Gen Ed Course (P)		3	{MSEG 833: Polymer Synth. Lab (soft mat)	3
<b>FIFTH SEMESTER (fall)</b>				
PHYS 311	Mechanics I	3	{Or	
PHYS 335	Quantum Sys/Stat	3	{MSEG 842: Solid State Materials II (hard mat.)	3
PHYS 351	Intermediate Lab I	1	{Technical Elective (hard mat)	3
PHYS 492	Research & Seminar	2	{Or	
Gen Ed Course		3	{MSEG 817: Composite Materials (comp. track)	3
Gen Ed Course		3	{Technical Elective (comp track)	3
Gen Ed Course		3	Technical Elective (all tracks)	3
<b>SIXTH SEMESTER (spring)</b>		MSEG Seminar Series		0
PHYS 321	Electromag. Fields I	3		
PHYS 498	Ind. Study/Research	1		
ENGL 3XX	Advanced Writing	3		
Gen Ed Course		3		
Gen Ed Course		3		
Elective		3		
<b>Credit Total</b>		<b>94</b>	<b>Credit Total (non-thesis)</b>	<b>36</b>
Notes:				
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**APPROVAL**

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

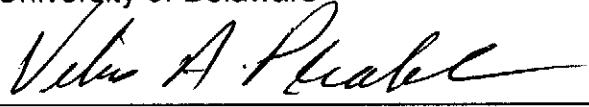
Approval is granted for a five-year term from July 1, 2013 through June 30, 2018, according to the terms of this agreement by:

  
\_\_\_\_\_  
Dr. John M. Anderson, President  
Millersville University of PA

2/19/14  
Date

  
\_\_\_\_\_  
Dr. Patrick T. Harker, President  
University of Delaware

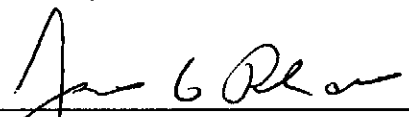
3/12/14  
Date

  
\_\_\_\_\_  
Dr. Vilas A. Prabhu, Provost and  
Vice President for Academic Affairs  
Millersville University of PA

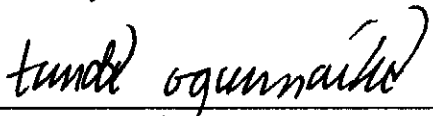
02/18/2014  
Date

  
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Dr. Domenico Grasso, Provost  
University of Delaware

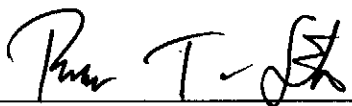
8 April 2014  
Date

  
\_\_\_\_\_  
Dr. James G. Richards, Vice Provost  
Graduate and Professional Education  
University of Delaware

3/31/14  
Date

  
\_\_\_\_\_  
Dr. Babatunde A. Ogunnaike, Dean  
College of Engineering  
University of Delaware

3/28/2014  
Date

  
\_\_\_\_\_  
Dr. Robert T. Smith, Dean  
School of Science and Mathematics  
Millersville University of PA

1/30/14  
Date



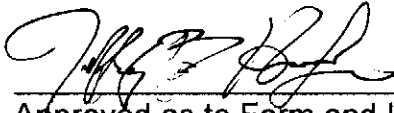
Dr. David C. Martin, Chair  
Department of Materials Science and Engineering  
University of Delaware

3/27/14  
Date



Dr. Michael J. Nolan, Chair  
Department of Physics  
Millersville University of PA

1/30/14  
Date



Approved as to Form and Legality  
Jeffrey T. Hawkins  
University Legal Counsel  
Millersville University of PA

4/17/14  
Date

APR 17 2014