

**DELAWARE TECHNICAL AND COMMUNITY COLLEGE  
and  
UNIVERSITY OF DELAWARE**

**PROGRAM ARTICULATION AGREEMENT**

**Associate Degree  
Science Education: Chemistry/Physics**

**Baccalaureate Degree  
B. A. Chemistry Education**

**2012 through 2017**

# **ASSOCIATE-BACCALAUREATE PROGRAM ARTICULATION AGREEMENT**

**between**

**Delaware Technical and Community College  
and  
University of Delaware**

**for**

**Science Education: Chemistry/Physics/B. A. Chemistry Education**

## **AGREEMENT**

**WHEREAS** Delaware Technical and Community College and the University of Delaware are committed to expanding educational opportunities for the citizens of the State of Delaware, and

**WHEREAS** the two institutions are committed to providing a smooth transition for students wishing to earn an associate degree and a baccalaureate degree, and

**WHEREAS** the intent of the two institutions is to avoid duplication of curricula where appropriate within articulated programs of studies, and

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

**BE IT HEREWITH RESOLVED** that this agreement commits the partners to full support of an articulation process between similar academic programs offered by the two institutions.

## **PROVISIONS OF THE AGREEMENT**

1. This program articulation agreement applies to Delaware Tech's Associate Degree Program in Science Education: Chemistry/Physics and the University of Delaware's Bachelor of Arts Degree Program in Chemistry Education.
2. The institutions agree to follow the joint program curriculum and course by course articulation delineated in this document.
3. Both educational institutions will cooperate toward developing, disseminating, and presenting the articulated program information to students.
4. Graduates of the Delaware Tech program who have completed the associate degree with a cumulative grade point average of 2.5 or higher will automatically be accepted into the baccalaureate program at the University of Delaware. Those with a cumulative grade point average between 2.0 and 2.5 will be considered for admission on a space available basis.
5. All articulated course credits earned with a C or better will be accepted for transfer according to the program matrix.
6. Students intending to transfer should complete the admissions application for the University of Delaware following the third semester of their associate degree program or upon completion of 48 credits.
7. Students are subject to all the policies and procedures of both institutions.
8. Students are subject to all specific policies pertaining to students admitted to the Bachelor of Arts Degree Program in Chemistry Education.
9. This articulation agreement is based on the present curricula contained in this document and it is effective for a five-year period from 2012 to 2017.
10. Both institutions at any time may initiate changes to this articulation agreement. Both institutions reserve the right to modify the programs as deemed necessary and agree to inform the appropriate individuals of said changes. The senior institution will make a good faith effort to honor the articulation agreement in effect at the time a student is admitted to the Science Education: Chemistry/Physics Associate Degree Program.

## ASSOCIATE/BACHELOR'S CONNECTED CURRICULUM

Institutions:

Delaware Tech

and

University of Delaware

Programs:

Science Education:  
Chemistry/Physics

and

B.A. Chemistry Education

Delaware Tech	Credits	Equivalency Approval Signature	University of Delaware	Credits
Course			Course	
ECO 111 Macroeconomics or ECO 122 Microeconomics or SOC 111 Sociology I	3	DTCC Matrix	UD Matrix	3
ENG 121 Composition	3	Matrix	Matrix	3
ENG 122 Technical Writing/ Communication <sup>A</sup>	3	Matrix	Matrix	3
HIS 111 U. S. History: Pre-Civil War or HIS 112 U. S. History: Post-Civil War	3	Matrix	Matrix	3
PSY 121 General Psychology	3	Matrix	Matrix	3
PSY 127 Human Development	3	Matrix	Matrix	3
SPA 136 Spanish Communication I	4	Matrix	Matrix	4
MAT 281 Calculus I	4	Matrix	Matrix	4
MAT 282 Calculus II	4	Matrix	Matrix	4
<b>Credit Subtotal</b>	<b>30</b>		<b>Credit Subtotal</b>	<b>30</b>

<sup>A</sup>ENG 122 must be taken in the last semester of the associate degree program to be accepted for the second writing requirement.

## ASSOCIATE/BACHELOR'S CONNECTED CURRICULUM

Institutions:

Delaware Tech

and

University of Delaware

Programs:

Science Education:  
Chemistry/Physics

and

B.A. Chemistry Education

Delaware Tech	Credits	DTCC	UD	University of Delaware	Credits
Course				Course	
BIO 150 Biology I (Major Elective)	4	Matrix	Matrix	BISC 207 Introductory Biology I	4
CHM 150 Chemical Principles I	5	Matrix	Matrix	CHEM 103 General Chemistry CHEM 166T Transfer Elective	4 1
CHM 151 Chemical Principles II	5	Matrix	Matrix	CHEM 104 General Chemistry CHEM 166T Transfer Elective	4 1
CHM 240 Organic Chemistry I (Major Elective)	4	Matrix	Matrix	CHEM 321 Organic Chemistry	4
EDC 100 Professional Prep: Praxis I	1			EDUC 166T Transfer Elective	1
EDC 260 Educational Psychology	3	Matrix	Matrix	EDUC 413 Adolescent Development & Educational Psychology	4
PHY 205 General Physics I or PHY 281 Physics I with Calculus	4	Matrix	Matrix	PHYS 201 Introductory Physics I or PHYS 207 Fundamentals of Physics I	4
PHY 206 General Physics II or PHY 282 Physics II with Calculus	4			PHYS 202 Introductory Physics II or PHYS 208 Fundamentals of Physics II	4
<b>Credit Subtotal</b>	<b>30</b>			<b>Credit Subtotal</b>	<b>30</b>
<b>Credit Total</b>	<b>60</b>			<b>Credit Total</b>	<b>60</b>

# BACHELOR'S DEGREE COMPLETION CURRICULUM

Institutions:

Delaware Tech

and

University of Delaware

Programs:

Science Education: Chemistry/Physics

and

B.A. Chemistry Education

General Education			Professional Education		
Course	Title	Credits	Course	Title	Credits
	Foreign Language Courses	8	CHEM 214/216	Elementary Biochemistry and Lab	4
Group A	Group A Courses	9	CHEM 220/221	Quantitative Analysis and Lab	4
Group B	Group B Courses	6	CHEM 322	Organic Chemistry	4
			CHEM 437/438	Instrumental Methods and Lab	4
			CHEM 418/445 or CHEM 443/445	Introductory Physical Chemistry I and Physical Chemistry I Lab or Physical Chemistry I and Physical Chemistry I Lab	4
			EDUC 414	Teaching Exceptional Adolescents	3
			EDUC 419	Diversity in Secondary Education (Fulfills multicultural requirement)	3
			EDUC 400	Student Teaching	9
			EDUC 420	Reading in the Content Areas	1
			SCEN 491	Teaching Science in Secondary Schools	4
			GEOL 107	General Geology	4
<b>Credit Subtotal</b>		<b>23</b>	<b>Credit Subtotal</b>		<b>44</b>



# CONNECTED DEGREE CURRICULUM

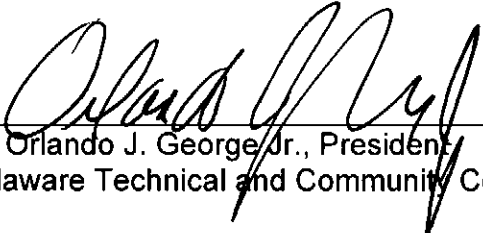
## Suggested Course Sequence

ASSOCIATE DEGREE Science Education: Chemistry/Physics  DELAWARE TECHNICAL AND COMMUNITY COLLEGE			BACHELOR'S DEGREE B. A. Chemistry Education  UNIVERSITY OF DELAWARE		
<b>FIRST SEMESTER (FALL)</b>			<b>FIFTH SEMESTER (SUMMER)</b>		
ENG 121	Composition	3		Group A Courses	6
PSY 121	General Psychology	3		Group B Course	3
MAT 281	Calculus I	4			9
CHM 150	Chemical Principles I	5			
		15			
<b>SECOND SEMESTER (SPRING)</b>			<b>SIXTH SEMESTER (FALL)</b>		
PSY 127	Human Development	3	GEOL 107	General Geology	4
PHY 281	Physics I with Calculus	4	CHEM 214/216	Elementary Biochemistry and Lab	4
MAT 282	Calculus II	4	CHEM 220/221	Quantitative Analysis and Lab	4
EDC 100	Professional Prep: Praxis I	1		Foreign Language Course	4
CHM 151	Chemical Principles II	5			
		17			16
<b>THIRD SEMESTER (FALL)</b>			<b>SEVENTH SEMESTER (SPRING)</b>		
BIO 150	Biology I (Major Elective)	4		Group A Course*	3
SPA 136	Spanish Communication I	4		Foreign Language Course	4
PHY 282	Physics II with Calculus	4	CHEM 322	Organic Chemistry	4
HIS 111	U. S. History: Pre-Civil War or	3	CHEM 437/438	Instrumental Methods and Lab	4
HIS 112	U. S. History: Post-Civil War		EDUC 414	Teaching Exceptional Adolescents	3
		15			
<b>FOURTH SEMESTER (SPRING)</b>			<b>EIGHTH SEMESTER (FALL)</b>		
ENG 122	Technical Writing/Communication <sup>^</sup>	3	CHEM 418/445 or CHEM 443/445	Introductory Physical Chemistry I and Physical Chemistry I Lab or Physical Chemistry I and Physical Chemistry I Lab	4
CHM 240	Organic Chemistry I (Major Elective)	4	EDUC 419	Diversity in Secondary Education	3
ECO 111	Macroeconomics or	3	SCEN 491	Teaching Science in Secondary Schools	4
ECO 122	Microeconomics or				
SOC 111	Sociology I				
EDC 260	Educational Psychology	3		Group B Course	3
			EDUC 420	Reading in the Content Areas	1
		13			15
			<b>NINTH SEMESTER (SPRING)</b>		
			EDUC 400	Student Teaching	9
<sup>^</sup> Course must be taken in last semester of associate degree program to be accepted for second writing requirement.			Students must pass PRAXIS I before taking methods courses and must have taken PRAXIS II before student teaching.		
			To be eligible to student teach, Chemistry Education students must have a GPA of 2.75 in their chemistry major and an overall GPA of 2.5.		
<b>Total Credits</b>		<b>60</b>	<b>Total Credits</b>		<b>67</b>
<ul style="list-style-type: none"> <li>The Bachelor of Arts degree in Chemistry Education requires a minimum of 124 credits.</li> <li>Course scheduling may vary by semester. See your advisor.</li> <li>RDG120, Critical Reading and Thinking, is a required DTCC course unless the student is exempt.</li> </ul>					

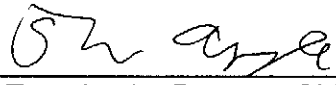
**APPROVAL**

This program articulation agreement is between Delaware Technical and Community College's Associate of Arts in Teaching Degree in Science Education: Chemistry/Physics and the University of Delaware's Bachelor of Arts Degree in Chemistry Education.

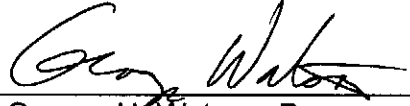
Approval is granted for a five-year term from 2012 through 2017 according to the terms of this agreement by:

  
\_\_\_\_\_  
Dr. Orlando J. George, Jr., President  
Delaware Technical and Community College


3/26/12  
Date

  
\_\_\_\_\_  
Dr. Tom Apple, Provost, Chief Academic Officer  
University of Delaware

3/6/12  
Date

  
\_\_\_\_\_  
Dr. George H. Watson, Dean  
College of Arts and Sciences  
University of Delaware

6 March 2012  
Date

  
\_\_\_\_\_  
Dr. Klaus Theopold, Chair  
Department of Chemistry & Biochemistry  
University of Delaware

2/28/2012  
Date