

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

**PROGRAM ARTICULATION AGREEMENT**

**Associate Degree  
A.A.S. Chemistry: Math Concentration**

**Baccalaureate Degree  
B.S. Biochemistry**

**2021 through 2026**

**Associate-Baccalaureate Program Articulation Agreement**

**between**

**Delaware Technical and Community College**

**and**

**University of Delaware**

**for**

**A.A.S. Chemistry: Math Concentration/B.S. Biochemistry**

**AGREEMENT**

**WHEREAS** Delaware Technical and Community College (DTCC) and University of Delaware (UD) 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. The institutions agree to follow the connected degree curriculums delineated in this document for the transfer of DTCC's Associate Degree Program in Chemistry: Math Concentration and UD's Bachelor of Science Degree Program in Biochemistry.
2. Both institutions will cooperate toward developing, disseminating, and presenting the articulated program information to students.
3. Graduates of the DTCC program who have completed the associate degree with a cumulative grade point average of 2.0 or higher will automatically be accepted into the baccalaureate program at UD. Students will be considered for admission based on the completed work at the time of the review. DTCC will provide confirmation of degree completion upon students' final semester of coursework. Students who do not complete the degree program as outlined in the agreement may have admission based on the articulation agreement criteria rescinded, however still may be considered for regular transfer admission based on the totality of their academic record. UD reserves the right to recalculate the DTCC cumulative grade point average to account for DTCC's grade forgiveness policy when making admission decisions.
4. Students must complete the courses in the specified associate degree program herein with a grade of C or better to receive the credits for transfer. Students are expected to complete all courses outlined in the DTCC portion of the agreement at DTCC. Students who have attended a college or university other than DTCC and transferred credits to DTCC in pursuit of the associate degree program may not be admissible via the provisions of this articulation agreement. In such cases, students will be considered based on their entire academic history and not guaranteed admission to the bachelor's degree program or the course equivalencies detailed within the provisions of this agreement. Coursework taken at an institution other than DTCC may not transfer to UD as noted in the agreement. It is expected that students will complete all coursework in the UD portion of the agreement at UD. Students who previously attended UD are not eligible for admission via an articulation agreement and instead should apply for readmission consideration if wishing to re-enroll at UD.
5. Students intending to transfer should complete the UD admissions application following the third semester of their associate degree program. Students should note on their application that they are applying as part of an articulation agreement/connected degree.
6. Students are subject to all the policies and procedures of both institutions.

7. Students are subject to all specific policies pertaining to students admitted to the Chemistry Bachelor's Degree Program.
8. This articulation agreement is based on the present curricula contained in this document and it is effective for a period of five years from the date of signing by both parties.
9. 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. Departments will review agreements and notify the appropriate individuals at each institution of any changes by July 1 of each year the agreement is in effect. The University of Delaware will make a good faith effort to honor this articulation agreement for any Delaware Technical and Community College student who enrolls in the Chemistry: Math Concentration Associate Degree program during the five year period specified for this agreement, and graduates with the required associate degree within eight (8) years of the signing of this agreement by both parties. A student who meets these conditions must apply to the University of Delaware and be accepted in order to receive the benefits of this agreement.

**CONNECTED DEGREE ANALYSIS**  
**Matching Worksheet/Suggested Course Sequence/Bachelor's Completion**

ASSOCIATE DEGREE PROGRAM A.A.S. CHEMISTRY: MATH CONCENTRATION DELAWARE TECHNICAL & COMMUNITY COLLEGE		BACHELOR'S DEGREE COURSE MATCH OR POTENTIAL COURSE MATCH		BACHELOR'S DEGREE COMPLETION B.S. BIOCHEMISTRY UNIVERSITY OF DELAWARE	
Course No./Name First Semester (Fall)	CR	Course No./Name	CR	Course No./Name Fifth Semester (Fall)	CR
BIO 150 Biology I	4	BISC 207 Introductory Biology	4	CHEM 333 Organic Chemistry (Lec & Lab)	2
CHM 150 Chemical Principles I	5	CHEM 103 General Chemistry CHEM 133 General Chemistry Laboratory CHEM 166DE Department Elective	3 1 1	CHEM 418 Physical Chemistry	3
CIS 107 Intro to Computers/Applications	3	CISC 166DE Department Elective	3	CHEM 437 Instrumental Methods CHEM 438 Instrumental Methods Lab	3 1
MAT 281 Calculus I	4	MATH 241 Analytic Geometry & Calculus A	4	CHEM 641 Biochemistry	3
ENG 101 Critical Thinking & Academic Writing (Effective Fall 2021 to be renamed Composition I)	3	ENGL 166DE Department Elective (ENG 101 + ENG 102 = ENGL 110 Exemption)	3	XXXX XXX Group A Course	3
SSC 100 First Year Seminar	1	UNIV 166DE Department Elective	1		
	20		20		15
Second Semester (Spring)				Sixth Semester (Spring)	
CHM 151 Chemical Principles II	5	CHEM 104 General Chemistry CHEM 134 General Chemistry Laboratory CHEM 166DE Department Elective	3 1 1	CHEM 419 Physical Chemistry CHEM 445 Physical Chemistry Lab	3 1
ENG 102 Composition & Research (Effective Spring 2022 to be renamed Composition II)	3	ENGL 166DE Department Elective (ENG 101 + ENG 102 = ENGL 110 Exemption)	3	CHEM342 Introduction to Biochemistry	3
SCI 130 Introduction to Research	2	CHEM 166DE Department Elective	2	CHEM 642 Biochemistry	3
PSY 121 General Psychology or Choose from: ECO 111, ECO 122, POL 111, SOC 111	3	PSYC 100 General Psychology or ECON 103, ECON 101, POSC 150, SOCI 201	3	XXXX XXX Group A Course	3
MAT 282 Calculus II	4	MATH 242 Analytic Geometry & Calculus B	4	XXXX XXX Multicultural Course	3
	17		17		16

A.A.S. Chemistry: Math Concentration/B.S. Biochemistry

ASSOCIATE DEGREE PROGRAM A.A.S. CHEMISTRY: MATH CONCENTRATION DELAWARE TECHNICAL & COMMUNITY COLLEGE		BACHELOR'S DEGREE COURSE MATCH OR POTENTIAL COURSE MATCH		BACHELOR'S DEGREE COMPLETION B.S. BIOCHEMISTRY UNIVERSITY OF DELAWARE	
Course No./Name Third Semester (fall)	CR	Course No./Name	CR	Course No./Name Seventh Semester (fall)	CR
CHM 240 Organic Chemistry I	4	CHEM 321 Organic Chemistry I CHEM 325 Organic Chemistry I Lab	3 1	CHEM 643 Intermediary Metabolism	3
CHM 250 Analytical Chemistry I	5	CHEM 120 Quantitative Chemistry CHEM 166DE Department Elective	3 2	CHEM 465 Senior Seminar	1
PHY 205 General Physics I or PHY 281 Physics I with Calculus	4	PHYS 201 Introductory Physics I or PHYS 207 Fundamentals of Physics I	4	CHEM 6XX Advanced Chemistry	3
SOC 111 Sociology or Choose from ECO 111, ECO 122, POL 111, PSY 121	3	SOCI 201 Introduction to Sociology or ECON 103, ECON 101, POSC 150, PSYC 100	3	XXXX XXX Group B Course	3
				XXXX XXX Group A, B, or C Course	3
	16		16		13
Fourth Semester (spring)				Eighth Semester (spring)	
CHM 241 Organic Chemistry II	4	CHEM 322 Organic Chemistry II CHEM 326 Organic Chemistry II Lab	3 1	CHEM 6XX Advanced Chemistry	3
CHM 251 Analytical Chemistry II	4	CHEM 220 Quantitative Analysis CHEM 221 Quantitative Analysis Lab	3 1	CHEM 468 Undergrad Research (DLE)	3
PHY 282 Physics II with Calculus or PHY 206 General Physics II	4	PHYS 208 Fundamentals of Physics II or PHYS 202 Introductory Physics II	4	CHEM 465 Senior Seminar	1
ENG 122 Technical Writing & Communication or ENG 130 Honors Technical Writing & Communication	3	ENGL 410 Technical Writing (will satisfy the CAS 2 <sup>nd</sup> Writing Requirement)	3	XXXX XXX Group B Course	3
				XXXX XXX Free Elective	3
	15		15		13
<b>TOTAL</b>	<b>68</b>		<b>67</b>		<b>57</b>

A.A.S. Chemistry: Math Concentration/B.S. Biochemistry



# CONNECTED DEGREE CURRICULUM

## Suggested Course Sequence

ASSOCIATE DEGREE A.A.S. CHEMISTRY: MATH CONCENTRATION DELAWARE TECHNICAL AND COMMUNITY COLLEGE				BACHELOR'S DEGREE B.S. BIOCHEMISTRY UNIVERSITY OF DELAWARE			
Semester 1 (Fall)			CR	Semester 5 (Fall)			CR
BIO	150	Biology I	4	CHEM	333	Organic Chemistry (Lec & Lab)	2
CHM	150	Chemical Principles I	5	CHEM	418	Physical Chemistry	3
CIS	107	Intro to Computers/Applications	3	CHEM	437	Instrumental Methods	3
MAT	281	Calculus I	4	CHEM	438	Instrumental Methods Lab	1
ENG	101	Critical Thinking & Academic Writing	3	CHEM	641	Biochemistry	3
SSC	100	First Year Seminar	1	XXXX	XXX	Group A Course	3
			<b>20</b>				<b>15</b>
Semester 2 (Spring)				Semester 6 (Spring)			
CHM	151	Chemical Principles II	5	CHEM	419	Physical Chemistry	3
				CHEM	445	Physical Chemistry Lab	1
ENG	102	Composition & Research	3	CHEM	342	Intro to Biochemistry	3
SCI	130	Introduction to Research	2	CHEM	642	Biochemistry	3
PSY	121	General Psychology or Choose from ECO111, ECO122, POL111, SOC111	3	XXXX	XXX	Group A Course	3
BIO	151	Biology II	4	XXXX	XXX	Multicultural Course	3
			<b>17</b>				<b>16</b>
Semester 3 (Fall)				Semester 7 (Fall)			
CHM	240	Organic Chemistry I	4	CHEM	643	Intermediary Metabolism	3
CHM	250	Analytical Chemistry I	5	CHEM	4XX	Advanced Chemistry	3
PHY	281	Physics I with Calculus OR	4	CHEM	465	Senior Seminar	1
PHY	205	General Physics I					
SOC	111	Sociology or Choose from ECO111, ECO122, POL111, PSY121	3	XXXX	XXX	Group B Course	3
				XXXX	XXX	Group A, B, C Course	3
			<b>16</b>				<b>13</b>
Semester 4 (Spring)				Semester 8 (Spring)			
CHM	241	Organic Chemistry II	4	CHEM	6XX	Advanced Chemistry	3
CHM	251	Analytical Chemistry II	4	CHEM	468	Undergrad Research (DLE)	3
PHY	282	Physics II with Calculus OR	4	CHEM	465	Senior Seminar	1
PHY	206	General Physics II					
ENG	122	Technical Writing & Communication OR	3	XXXX	XXX	Group B Course	3
ENG	130	Honors Technical Writing & Communication		XXXX	XXX	Free Elective	3
			<b>15</b>				<b>13</b>
<b>Total Credits</b>			<b>68</b>				<b>57</b>
<ul style="list-style-type: none"> <li>• Students wishing to transfer to the University of Delaware's BS in Biochemistry must complete BIO 151 (BISC 208 equivalent) prior to enrolling at UD.</li> <li>• The Bachelor of Science/Arts program in Chemistry requires a minimum of 124 credits. Some University/College requirements may overlap; if so, additional elective credit will be needed to reach the 124cr minimum for graduation.</li> <li>• Course sequencing may vary by semester. See your advisor.</li> </ul>							
For more information contact:							
<b>Delaware Tech</b> <b>Dr. Lakshmi Cyr</b> <b>Science Department, Stanton Campus</b> <b>Newark, DE: (302) 453-3791</b>				<b>University of Delaware</b> <b>Newark, DE (302) 831-2465</b>			
The articulation agreement is subject to change based on Delaware Tech and senior institution curriculum changes 08/2021							

## APPROVAL

This program articulation agreement is between DTCC's Associate of Applied Science Degree in Chemistry: Math Concentration and UD's Bachelor of Science Degree in Biochemistry.

Approval is granted for a period of five years effective on the date both parties have fully executed this agreement.

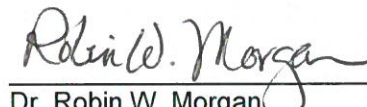
This agreement may be executed electronically through the use of any program that meets the requirements of the Delaware Uniform Electronic Transactions Act, or other applicable law, or in any number of counterparts and all of such counterparts shall together constitute one and the same instrument. Delivery of an executed counterpart of a signature page of this Agreement in Portable Document Format (PDF) or by facsimile transmission shall be effective as delivery of a manually executed original counterpart of this Agreement.

### DELAWARE TECHNICAL AND COMMUNITY COLLEGE


### UNIVERSITY OF DELAWARE

  
Dr. Mark T. Brainard  
President

9/9/2021  
Date


  
Dr. Robin W. Morgan  
Provost

9/16/21  
Date

  
Justina M. Thomas (Sep 9, 2021 17:27 EDT)

Justina M. Thomas  
Vice President for Academic Affairs

Sep 9, 2021  
Date


  
Dr. John A. Pelesko  
Dean  
College of Arts and Sciences

9/15/21  
Date

  
Lakshmi Cyr (Sep 9, 2021 13:52 EDT)

Dr. Lakshmi Cyr  
Instructional Director/Department Chair  
Science Department, Stanton Campus

Sep 9, 2021  
Date

  
Dr. Brian Bahnsen  
Chair  
Chemistry & Biochemistry

9/14/2021  
Date