



**ACADEMIC PROGRAM ARTICULATION AGREEMENT BETWEEN  
FREDERICK COMMUNITY COLLEGE  
AND  
SHEPHERD UNIVERSITY REGARDING TRANSFER FROM THE A. S.  
DEGREE IN STEM TO B.S. IN CHEMISTRY (BIOCHEMISTRY  
CONCENTRATION)**

This Academic Program Articulation Agreement ("Agreement") is entered into by and between Frederick Community College (FCC) and Shepherd University (the "Receiving Institution") (collectively, the "Institutions") to facilitate the transfer of academic credits from the A.S. degree in STEM, for the completion of B.S. in Chemistry (Biochemistry concentration) (the "Program(s)").

**A. Qualifying Students**

This Agreement pertains to the transfer of "Qualifying Students", *i.e.*, those students who:

1. Are graduates of the A.S. degree in STEM at FCC;
2. Are enrolled at FCC, in good standing; and maintaining a 2.0 cumulative grade point average in order to transfer;
3. Are accepted for admission to Shepherd University.

**B. Responsibilities of the Institutions**

The Institutions agree to implement the transfer of Qualifying Students in accordance with applicable law and the following requirements and protocols:

1. A Qualifying Student may transfer from Frederick Community College into Shepherd University for the completion of the B.S. in Chemistry (Biochemistry concentration).
2. At least 60 credits but not more than 72 credits of general education, elective, and major courses that a student earns at Frederick Community College toward an associate degree shall be transferable to Shepherd University toward this bachelor's degree.
3. All FCC courses meeting general education requirements at FCC, as listed in this Agreement, will transfer and apply toward the general education requirements at Shepherd University.
4. Courses that Shepherd University will accept credits for towards completion of the B.S. in Chemistry include:

FCC Course			Shepherd University Comparable Course			
Semester 1						
Course Number	Course Name	Credits	Course Number	Course Name	Credits	Applied to*
ENGL 101	English Composition	3	ENGL 101	Writing & Rhetoric I	3	T1-EN
CHEM 101	General Chemistry I	4	CHE 207/CHE M 207L	General Chemistry II with Lab	4	T1-LS
MATH 185	Calculus I	4	MATH 207	Calculus I	4	T1-MA
GenEd	Humanities Elective	3	HUMANITIES	Core Curriculum Humanities (GL/MD/CK)	3	T2-HM
PHED 165 or NUTR 102	Fitness for Living OR Nutrition in a Changing World	3	GSPE 210 or NUTR 120	Fitness for Life OR Food and Wellness	3	T2-WE
Total Credits					17	

FCC Institution Course			Shepherd University Comparable Course			
Semester 2						
Course Number	Course Name	Credits	Course Number	Course Name	Credits	Applied to*
CHEM 102	General Chemistry II	4	CHEM 209/209 L	General Chemistry II with Lab	4	T1-LS
BSCI 150	Principles of Biology I	4	BIOL 211	Fundamentals of Biology I	4	
SOCY 101	Introduction to Sociology	3	SOCI 203	General Sociology (MD)	3	T2-SO
MATH 195	Calculus II	4	MATH 208	Calculus II	4	
Total Credits					15	

FCC Institution Course			Shepherd University Comparable Course			
Semester 3						
Course Number	Course Name	Credits	Course Number	Course Name	Credits	Applied to*
PHYS 151	General Physics I	4	PHYS 221/221 L	General Physics I with Lab	4	T1-HI
COMM 101 or COMM 111	Public Speaking OR Intro Comm Studies	3	COMM 202 or COMM 203	Fundamentals of Speech (GL/MD) OR Communications and new Media (CK)	3	T2-HM
PSYC 101	General Psychology	3	PSYC 101	Introduction to Psychology	3	T2-SO
CHEM 201	Organic Chemistry	4	CHEM 315/315 L	Organic Chemistry I with Lab	4	
GenEd	ARTT 100/MUSC 111/MUSC 101/ THEA 101	3	ARTS	ART 103/ART 203/ MUSC 103/MUSC	3	T2-AR



				111/THEA 204 (GL/MD)		
<b>Total Credits</b>					17	

FCC Course			Shepherd University Comparable Course			
Semester 4						
Course Number	Course Name	Credits	Course Number	Course Name	Credits	Applied to*
ENGL 102	English Composition & Literature (Elective)	3	ENGL 102	Writing and Rhetoric II	3	T1-ENG
BSCI 160	Principles of Biology II	4	BIOL 212	Fundamentals of Biology II	4	
PHYS 252	General Physics II	4	PHYS 222/222 L	General Physics II with Lab	4	
CHEM 202	Organic Chemistry II	4	CHEM 316/316 L	Organic Chemistry II with Lab	4	
Total Credits					15	

5. Courses that students will take at Shepherd University towards completion of the B.S. in Chemistry (Biochemistry Concentration) include:

Fall Year 3 Shepherd University			Credit	Spring Year 3 Shepherd University		Credit
CHEM 321	Analytical Chemistry		3	CHEM 322	Instrumental Analysis	3
CHEM 321L	Analytical Chemistry Lab		1	CHEM 322L	Instrumental Analysis Lab	1
CHEM 329	Biochemistry I		3	CHEM 330	Biochemistry II	3
CHEM 329L	Biochemistry I Lab		1	CHEM 330L	Biochemistry II Lab	1
Science Elective	Science Elective		4	CHEM 450	Research in Chemistry	3
Elective	Elective		4	BIOL 305	Cell Biology	4
<b>Total Credits</b>			<b>16</b>	<b>Total Credits</b>		<b>13</b>

Fall Year 4 Shepherd University			Credit	Fall Year 4 Shepherd University		Credit
BIOL 344	Genetics		4	CHEM 325	Computers in Science	3
CHEM 450	Research in Chemistry		2	CHEM 340	Physical Chemistry I	3
Science Elective	Science Elective		3-4	CHEM 340L	Physical Chemistry I Lab	1
HISTORY	Core Curriculum History		3	CHEM 450	Research in Chemistry	1
				MATH 208	Calculus II	4
				Elective	Elective	3-4
<b>Total Credits</b>			<b>12-13</b>	<b>Total Credits</b>		<b>15-16</b>

6. Shepherd University shall designate, and shall provide FCC, the contact information for a staff person at Shepherd University who is responsible for the oversight of the transfer of Qualifying Students. FCC shall designate, and shall provide to Shepherd University, the contact information for a staff person at FCC who is responsible for the oversight of the transfer of Qualifying Students.

	FCC	Shepherd University
Name of staff person responsible for oversight	Dr. Jacob N. Ashby	Dr. Ben Martz
Title of staff person	Assistant Dean, Assessment and Articulation	Interim Provost and Vice President of Academic Affairs
Email address	<a href="mailto:jashby@frederick.edu">jashby@frederick.edu</a>	<a href="mailto:bmartz@shepherd.edu">bmartz@shepherd.edu</a>
Telephone Number	301-624-2802	304 876 5176

7. Shepherd University and Frederick Community College currently have a dual admissions agreement. This agreement will not preclude students from participation and students may apply for and receive the benefits of dual admissions. Those students would then be subject to the policies of said program should they apply.
8. If the Qualifying Student is using federal Title 38 VA Education Benefits (GI Bill® Education Benefits), the Institutions shall adhere to all applicable U.S. Department of Veterans Affairs' regulations, including the regulations governing the awarding prior credit, as regulated under Title 38, Code of Federal Regulations, Sections 21.4253(d)(3) and 21.4254(c)(4).
9. Each Institution shall advise students regarding transfer opportunities under this Agreement, and shall advise students of financial aid opportunities and implications associated with the transfer.
10. Should either Institution make changes to program requirements, the institution will inform the partner institution immediately. The articulation agreement should be updated to reflect the changes and forwarded by FCC to the Maryland Higher Education Commission.

### **C. Term and Termination**

1. This agreement shall be effective on the date that it is signed by all appropriate and authorized representatives of each Institution.

2. Either Institution may, at its sole discretion, terminate this Agreement upon delivering 60 days written notice to the other Institution and the Maryland Higher Education Commission.
3. Both Institutions agree to review the terms of the agreement once every 2 year(s).

#### **D. Amendment**

1. This Agreement constitutes the entire understanding and agreement of the Institutions with respect to their rights and obligations in carrying out the terms of the Agreement, and supersedes any prior or contemporaneous agreements or understandings.
2. This Agreement may be modified only by written amendment executed by both Institutions.

#### **E. Counterparts**

This Agreement may be executed in counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

#### **F. Notice of Agreement**

1. The Institutions agree to provide a copy of this Agreement, with any amendments, to the Maryland Higher Education Commission.
2. The Institutions agree to provide copies of this Agreement to all relevant individuals and departments of the Institutions, including but not limited to students, academic department chairs participating in the transfer, offices of the president, registrar's offices, and financial aid offices.

#### **G. No Third-Party Beneficiaries**

1. There are no third-party beneficiaries to this Agreement.

#### **H. Representations and Warranties of the Parties**

Both Institutions represent and warrant that the following shall be true and correct as of the Effective Date of this Agreement, and shall continue to be true and correct during the term of this Agreement:



1. The Institutions are and shall remain in compliance with all applicable federal, state, and local statutes, laws, ordinances, and regulations relating to this Agreement, as amended from time to time.
2. Each Institution has taken all action necessary for the approval and execution of this Agreement.

**IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized representatives.**

Mary J. C. Hendrix 7/7/21  
 Dr. Mary J. C. Hendrix Date  
 President  
 Shepherd University

Jacquelyn Cole 7/1/21  
 Dr. Jacquelyn Cole Date  
 Department Chair of Chemistry  
 Shepherd University

Robert Warburton 7/1/21  
 Dr. Robert Warburton Date  
 Dean for the College of Science, Technology,  
 Engineering, and Mathematics  
 Shepherd University

Tony D. Hawkins 7/15/21  
 Dr. Tony D. Hawkins, Date  
 Provost/Executive Vice President  
 Academic Affairs, Continuing Education,  
 and Workforce Development  
 Frederick Community College

Teresa Calzonetti 7/15/21  
 Teresa Calzonetti, Date  
 Department Chair of Science  
 Frederick Community College



## 2+2 Chemistry - Biochemistry Transfer Agreement with Shepherd U and Frederick CC

Frederick Community College Course				Shepherd University Equivalent Course			
YEAR ONE				YEAR ONE			
Fall Course ID	Course Title	Cred.	CORE	Fall Course ID	Course Title	Cred.	CORE
ENGL 101	Written English I	3		ENGL 101	Writing and Rhetoric I	3	T1-ENG
CHEM 101	General Chemistry I	4		CHEM 207/207L	General Chemistry II with Lab	4	T1-LS
MATH 185	*Calculus I	4		MATH 207	Calculus I	4	T1-MA
GenEd <sup>1</sup>	*Humanities Elective <sup>1</sup>	3		HUMANITIES	Core Curriculum Humanities (GL/MD/CK)	3	T2-HM
PHED 165 or NUTR 102	Fitness for Living <u>or</u> Nutrition in a Changing World	3		GSPE 210 or NUTR 120	Fitness for Life or Food for Wellness	3	T2-WE
FALL TOTAL		17hrs		FALL TOTAL		17hrs	
Spring Course ID	Course Title	Cred.	CORE	Spring Course ID	Course Title	Cred.	CORE
CHEM 102	General Chemistry II	4		CHEM 209/209L	General Chemistry II with Lab	4	T1-LS
BSCI 150	Principles of Biology I	4		BIOL 211	# Fundamentals of Biology I	4	
GenEd <sup>1</sup> SOCY 101	Introduction to Sociology	3		SOCI 203	General Sociology (MD)	3	T2-SO
MATH 195	Calculus II	4		MATH 208	Calculus II	4	
SPRING TOTAL		15hrs		SPRING TOTAL		15hrs	
YEAR TWO				YEAR TWO			
Fall Course ID	Course Title	Cred.	CORE	Fall Course ID	Course Title	Cred.	CORE
PHYS 151	*General Physics I	4		PHYS 221/221L	General Physics I with Lab	4	
COMM 101 or COMM 111	Public Speaking; Intro Comm Studies or Intro Mass Comm	3		COMM 202; COMM 203	Fundamentals of Speech; (GL/MD) Communication and New Media (CK)	3	T2-HM
GenEd <sup>1</sup> PSYC 101	General Psychology	3		PSYC 101	Introduction to Psychology (MD)	3	T2-SO
CHEM 201	Organic Chemistry I	4		CHEM 315/315L	Organic Chemistry I with Lab	4	
GenEd <sup>1</sup>	ARTT100/MUSC111/MUSC101/THEA101	3		ARTS	ART103/ART 203/MUSC103/MUSC111/THEA204 (GL/MD)	3	T2-AR
FALL TOTAL		17hrs		FALL TOTAL		17hrs	
Spring Course ID	Course Title	Cred.	CORE	Spring Course ID	Course Title	Cred.	CORE
ENGL 102	*English Composition & Literature (Elective)	3		ENGL 102	Writing and Rhetoric II	3	T1-ENG
BSCI 160	Principles of Biology II	4		BIOL 212	# Fundamentals of Biology II	4	
PHYS 252	*General Physics II (Elective)	4		PHYS 222/222L	General Physics II with Lab	4	
CHEM 202	Organic Chemistry II	4		CHEM 316/316L	Organic Chemistry II with Lab	4	
SPRING TOTAL		15hrs		SPRING TOTAL		15hrs	64



Shepherd University Courses							
YEAR THREE				YEAR THREE			
Fall Course ID	Shepherd Course Title	Cred.	CORE	Spring Course ID	Shepherd Course Title	Cred.	CORE
CHEM 321	Analytical Chemistry	3		CHEM 322	Instrumental Analysis	3	
CHEM 321L	Analytical Chemistry Lab	1		CHEM 322L	Instrumental Analysis Lab	1	
CHEM 329	Biochemistry I	3		CHEM 330	Biochemistry II	3	
CHEM 329L	Biochemistry I Lab	1		CHEM 330L	Biochemistry II Lab	1	
Science Elective <sup>2</sup>	Science Elective <sup>2</sup>	4		CHEM 450	Research in Chemistry	1	T2-WM
	Elective	4					
				BIOL 305	Cell Biology	4	
<b>FALL TOTAL</b>	<b>YEAR 3</b>	<b>16hrs</b>		<b>SPRING TOTAL</b>	<b>YEAR 3</b>	<b>13Hrs</b>	
YEAR FOUR				YEAR FOUR			
Fall Course ID	Shepherd Course Title	Cred.	CORE	Spring Course ID	Shepherd Course Title	Cred.	CORE
BIOL 344	Genetics	4		CHEM 325	Computers in Science	3	
CHEM 450	Research in Chemistry	2	T2-WM	CHEM 340	Physical Chemistry I	3	
Science Elective <sup>2</sup>	Science Elective <sup>2</sup>	3-4		CHEM 340L	Physical Chemistry I Lab	1	
HISTORY	Core Curriculum History	3	T1-HIST	CHEM 450	Research in Chemistry	1	T3-CAP
				MATH 208	Calculus II	4	
				Elective	Elective	3-4	T2-SO
<b>FALL TOTAL</b>	<b>YEAR 4</b>	<b>12-13</b>		<b>SPRING TOTAL</b>	<b>YEAR 4</b>	<b>15-16hrs</b>	
			<b>TOTAL</b>	<b>CREDITS</b>	<b>FOR ALL FOUR YEARS</b>	<b>120-122</b>	

\* Part of Shepherd's Core Curriculum # BIO 211 and BIOL 212 approved D.Wing

<sup>1</sup> Choose electives that transfer to Shepherd.

<sup>2</sup> Choose 2 from the list: CHEM 301; CHEM 436; BIOL 302; BIOL 394, BIOL 404; BIOL 416; BIOL 418

Approved By: Mary J.C. Hendrix 7-7-21  
 Mary J.C. Hendrix, President  
 Shepherd University  
 Date

Approved By: Tony D. Hawkins 7/19/21  
 Tony D. Hawkins, Provost  
 Frederick Community College  
 Date