

MEMORANDUM OF UNDERSTANDING
HARFORD COMMUNITY COLLEGE & TOWSON UNIVERSITY
March 26, 2018

**Molecular Biology, Biochemistry, and Bioinformatics (MB3) – Molecular Biology
Concentration B.S. Degree**

Harford Community College, Bel Air, Maryland, and Towson University, agree to follow the articulation of courses outlined in the articulation (course equivalency) document, for completion of requirements for the Bachelor of Science degree in Molecular Biology, Biochemistry, and Bioinformatics (Attachment A), which is attached to, and incorporated by reference into, this Memorandum of Understanding (MOU). The following principles guide the operation of this MOU, with the requirements for transfer in specific curricula set forth in Attachment A.

1. Towson University will accept a maximum number of 64 credits from Harford Community College as outlined in the Attachment A. The number of transferable credits specific to this program is reflected in Attachment A.
2. Students who have completed the Associate of Science Degree in the Biology program at Harford Community College may transfer into Towson University's Molecular Biology, Biochemistry, and Bioinformatics: Molecular Biology concentration program with junior standing provided that the student has completed all courses identified on Attachment A (which is attached to, and incorporated by reference into, this MOU) with a cumulative GPA of 2.00 or higher. Courses completed at Harford Community College with 300 or 400 level Towson University course equivalencies will transfer as lower-level credit but will satisfy course content as indicated.
3. Only courses in which a grade of C (2.00) or better is earned will apply toward the major at Towson University.
4. In accordance with the MHEC transfer policy pertaining to general education requirements, Towson University will accept the completion of Harford Community College's general education requirements (GenEds) and students will be required to complete courses at Towson University to satisfy the remaining *University Core* requirements as shown in Attachment A.
5. Towson University recognizes college-level experiential learning gained through previous work, military and/or volunteer service or life experience. Credit for prior learning may also be established through course challenge or standardized credit by examination.
6. Harford Community College students transferring to Towson University will be given every consideration for financial aid and will be eligible to compete for academic scholarships upon entrance to Towson University subject to stated scholarship deadlines.

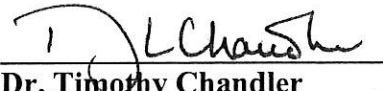
7. Both Harford Community College and Towson University agree to work together to facilitate the transfer of students from Harford Community College to Towson University to work cooperatively to insure the high quality of the programs at the respective institutions. Transfer of students will be in accordance with policies and procedures of both institutions, as they may be amended from time to time.
8. This MOU will be in effect initially for ten years, beginning *spring 2018*, with a review every two years by both parties. Any revisions the parties deem necessary must be evidenced in writing and signed by the authorized officials of each institution. The MOU may be terminated by either party for due cause and after adequate notice of not less than six months is given to the other party.
9. Towson University will establish procedures to provide information on the academic progress of Harford Community College students enrolled as part of this MOU.
10. This MOU, when signed, constitutes the entire agreement between the parties and supersedes all prior agreements and understandings between the parties respecting the matter hereof.

HARFORD COMMUNITY COLLEGE AND TOWSON UNIVERSITY



Dr. Steven Thomas
Vice President for
Academic Affairs

Date 5.17.2018



Dr. Timothy Chandler
Provost and Vice-President for
Academic Affairs

Date 6/1/18

**HARFORD COMMUNITY COLLEGE- Biology A.S. Degree
TOWSON UNIVERSITY- Molecular Biology, Biochemistry and Bioinformatics (MB3) B.S. Degree – Molecular Biology Concentration**

HARFORD COMMUNITY COLLEGE			TOWSON UNIVERSITY			
COURSE #	COURSE TITLE	CRS.	TU EQUIVALENCY	CORE	COMMENTS	COURSE ID#
ENG 101	English Composition (GE) (grade of C or better)		TSEM 102 (WAIVED)	1.	Towson Seminar	
MATH 109 OR	Precalculus Mathematics (GM) OR	3	ENGL 102	2.	English Composition	2348
MATH 203 *	Calculus I (GM)	4	MATH 119 MATH 273	3.	Mathematics	4381 4407
GH	Arts & Humanities (GH)	3	Depends on choice.	4.	Creativity & Creative Development	
GB	Behavioral/Social Science (GB)	3	Depends on choice.	5.	Arts & Humanities	
CHEM 111	General Chemistry I (GL)	4	CHEM 131/131L	6.	Social & Behavioral Sciences	
CHEM 112	General Chemistry II A (GL)	4	CHEM 132/132L	7.	Biological & Physical Science w/Lab	13097/13098
				8.	Biological & Physical Science	13099/13100
				9.	Advanced Writing Seminar	
GB	Behavioral/Social Science (GB) **	3	Depends on choice.	10.	Metropolitan Perspectives	
				11.	The United States as a Nation	
GH	Arts & Humanities (GH) **	3	Depends on choice.	12.	Global Perspectives	
				13.	Diversity & Difference	
				14.	Ethical Issues & Perspectives	
Total CORE in Transfer		27				
MATH 203 OR	Calculus I (GM) OR		MATH 273			4407
BIO elect *	<i>BIOI</i> program elective	3-4	Depends on Choice			
BIO 208	Genetics	4	BIOI 109 (309)		Transfers as lower level credit.	11379
BIO 120	General Biology I (GL)	4	BIOI 200/200L			13759/13760
BIO 121	General Biology II (GL)	4	BIOI 202			667
PHYS 101 OR	Introductory Physics I (GL) OR	4	PHYS 211			6800
PHYS200/203	Gen Phys: Mechanics & Particle Dynamics w/LAB (GL/GS)	4	PHYS 241			6805
PHYS 102 OR	Introductory Physics II (GL) OR	4	PHYS 212			6801
PHYS 204	Gen Phys: Vibrations, Waves, Heat, Electricity & Magnetism (GL)	4	PHYS 242			6806
CHEM 207	Organic Chemistry I	4	CHEM T31 (331)		Transfers as lower level credit.	10134
CHEM 208	Organic Chemistry II	4	CHEM T32 (332)		Transfers as lower level credit.	10135
PHYS ED ELECT	Physical Education Elective	1	PHEA TLL			10564
ELECT *	Elective	0-1	Depends on choice.			
Program Requirements at Harford		32-33				
Total Program Requirements at Harford		60				
Maximum Credits in Transfer		64				

64 Credit Maximum. 15 Core Curriculum units must be completed at Towson University; 4. Creativity; 9. Advanced Writing Seminar; 10. Metropolitan Perspectives; 12. Global Perspectives; 14. Ethical Issues.

*Students must complete Calculus at Harford Community College. If MATH 109 (Pre-Calculus) is required, students should take MATH 203 (Calculus) as their Program Elective. If MATH 109 (Pre-Calculus) is not required, students should take MATH 203 as their General Education math and choose any course from the list to satisfy program elective for the A.S. Biology degree. Students opting to take the Calculus-based physics sequence (PHYS 200/203 and PHYS 204) should choose MATH 204 as their program elective to satisfy the prerequisite for PHYS 204. Students may need to take additional elective credits at HCC depending on choice of Calculus and Program Elective to meet A.S. degree requirements.

** One GB or GH course must also satisfy Diversity requirement at HCC.

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CORE REQUIREMENTS TO BE COMPLETED AT TOWSON 15 UNITS

CORE 4:	Creativity and Creative Development	(3 UNITS)
CORE 9:	Advanced Writing Seminar	(3 UNITS)
CORE 10:	Metropolitan Studies	(3 UNITS)
CORE 12:	Global Perspectives	(3 UNITS)
CORE 14:	Ethical Issues and Perspectives	(3 UNITS)

PROGRAM REQUIREMENTS TO BE COMPLETED AT TOWSON 32-33 UNITS

REQUIRED COURSES: 23 UNITS

BIOL 409	MOLECULAR BIOLOGY	(4 UNITS)
CHEM 351	BIOCHEMISTRY I	(3 UNITS)
MATH 237	ELEMENTARY BIostatISTICS	(4 UNITS)
MBBB201	PROGRAMMING FOR BIOLOGISTS OR	(4 UNITS)
COSC 175	GEN COMPUTER SCIENCE	(4 UNITS)
MBBB 301	INTRO TO BIOINFORMATICS	(4 UNITS)
MBBB 493	SEMINAR IN BIOETHICS	(1 UNIT)
SELECT ONE OF THE FOLLOWING:		
MBBB 495	CAPSTONE PROJECT*	(3 UNITS)
BIOL 491	ELECTIVE IN INDEPENDENT RESEARCH*	
CHEM 491	INTRODUCTION TO RESEARCH IN CHEMISTRY I*	
COSC 495	INDEPENDENT STUDY*	

*COURSES MAY BE REPEATED FOR A TOTAL OF 6 UNITS TOWARD THE MAJOR

COURSES FOR MOLECULAR BIOLOGY CONCENTRATION: 9-10 UNITS

BIOL 408	CELL BIOLOGY	(4 UNITS)
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SELECT ONE OF THE FOLLOWING LABORATORY COURSES:

BIOL 312	GENETICS LABORATORY	(2 UNITS)
BIOL 410	MOLECULAR BIOLOGY LABORATORY	
BIOL 412	CELL BIOLOGY LABORATORY	

BIOLOGY UPPER LEVEL ELECTIVE (3-4 UNITS)

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Additional Bachelor Degree Requirements

- A C (2.0) or higher is required in all major and minor courses
- A cumulative grade point average (GPA) of 2.0 is required
- 32 units of the bachelor’s degree must be completed at the upper level (courses numbered 300 or above)

Total Credits to B.S. Degree	(120)
Harford Biology A.S. Degree	60
Completion of Core at TU	15
Completion of Major Requirements at TU	32-33
Elective Credits at TU	12-13