

MEMORANDUM OF UNDERSTANDING
HARFORD COMMUNITY COLLEGE & TOWSON UNIVERSITY
May 1, 2018

Biological Sciences (Cell and 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 Biological Sciences (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 Biological Sciences: Cell and 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 Executive Vice-President for
Academic Affairs

Date 6/1/18

HARFORD COMMUNITY COLLEGE- Biology A.S. Degree
TOWSON UNIVERSITY - Biological Sciences B.S. Degree – Cell & 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)	3	TSEM 102 (WAIVED) ENGL 102	1.	Towson Seminar English Composition	2348
MATH 109 OR MATH 203 *	Precalculus Mathematics (GM) OR Calculus I (GM)	4	MATH 119 MATH 273	2. 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	13097/13098
CHEM 112	General Chemistry II A (GL)	4	CHEM 132/132L	7.	Biological & Physical Science w/Lab	13099/13100
				8.	Biological & Physical Science	
				9.	Advanced Writing Seminar	
GB	Behavioral/Social Science (GB) **	3	Depends on choice.	10.	Metropolitan Perspectives	
				11.	The United States as a Nation	
				12.	Global Perspectives	
GH	Arts & Humanities (GH) **	3	Depends on choice.	13.	Diversity & Difference	
				14.	Ethical Issues & Perspectives	
Total CORE in Transfer		27				
MATH 203 OR BIO ELECT *	Calculus I (GM) or Biology Elective	3-4	MATH 273 Depends on choice.			4407
BIO 208	Genetics	4	BIOL T09 (309)		Transfers as lower level credit.	11379
BIO 120	General Biology I (GL)	4	BIOL 200/200L			13759/13760
BIO 121	General Biology II (GL)	4	BIOL 202			667
PHYS 101 OR PHYS 200/203	Introductory Physics I (GL) OR Gen Phys: Mechanics & Particle Dynamics w/LAB (GL/GS)	4	PHYS 211 PHYS 241			6800 6805
PHYS 102 OR PHYS 204	Introductory Physics II (GL) OR Gen Phys: Vibrations, Waves, Heat, Electricity & Magnetism (GL)	4	PHYS 212 PHYS 242			6801 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		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.

*See Course Selection notes.

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

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***Course Selection at HCC:**

Choosing your program electives will depend on whether you are calculus-ready when you enter the Biology Associate of Science program at HCC.

Students who do NOT require pre-calculus should take MATH 203 (Calculus I) 4 credits to satisfy the General Education math requirement and program requirement at HCC. MATH 203 will satisfy Core 3 and the program Math requirement at TU. Please note, however, that students intending to take the calculus-based physics sequence (PHYS 200 & 204 at HCC or PHYS 241 & 242 at TU) must take MATH 203 and MATH 204.

Students who do not require pre-calculus will have 4 credits of program electives to take at HCC. The following options are suggested for satisfying the program elective:

- BIO 202 (Biodiversity). This course transfers as BIOL 208 and will satisfy a Breadth requirement for the major at TU. Students choosing BIO 202 may need to take additional elective credit to meet the required 60 credits for degree at HCC.
- BIO 107 (General Zoology) and BIO 110 (Introduction to Plant Sciences). These courses transfer to TU as BIOL 207 and BIOL 205 respectively and will satisfy a Breadth requirement for the major at TU. Please note that BOTH courses must be completed to satisfy the Breadth requirement. Students transferring with only BIO 107 or BIO 110 will need to complete either BIOL 205 or BIOL 207 at TU to satisfy the Breadth requirement. Students who take both courses at HCC will graduate with more than 60 credits, but will still be able to earn the baccalaureate degree in 120 credits. A maximum of 64 credits will be transferred to TU.

Students who REQUIRE pre-calculus should take MATH 109 (Pre-Calculus) to satisfy the General Education math requirement and MATH 203 (Calculus I) as the program elective at HCC. Calculus is required to complete the A.S. degree at HCC and will satisfy the Ancillary Math requirement of the major at TU.

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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 23-35 UNITS

FOUNDATION COURSES: 1 UNIT

BIOL 204 EDUCATIONAL AND CAREER PLANNING FOR THE BIOLOGIST

BREADTH COURSES: 11-24 UNITS

- **SELECT ONE OF THE FOLLOWING:** (0-8 UNITS)
(if BIO202 or BIO 107 and BIO 110 were not taken at HCC)

BIOL 205 & GENERAL BOTANY AND
 BIOL 207 GENERAL ZOOLOGY
 OR
 BIOL 208 BIODIVERSITY

- **SELECT TWO OF THE FOLLOWING:** (8 UNITS)

BIOL 405 MOLECULAR ECOLOGY, EVOLUTION & CONSERVATION
 BIOL 408 CELL BIOLOGY
 BIOL409 MOLECULAR BIOLOGY

- **SELECT ONE OF THE FOLLOWING:** (3-8 UNITS)

BIOL 221/221L & HUMAN ANATOMY & PHYSIOLOGY I W/LAB AND
 BIOL 222/222L HUMAN ANATOMY & PHYSIOLOGY II W/LAB
 OR
 BIOL 325 ANIMAL PHYSIOLOGY
 OR
 BIOL 436 PLANT PHYSIOLOGY

**TOWSON UNIVERSITY - Harford Community College - Biology A.S. Degree
Cell & Molecular Biology Concentration**

ELECTIVE COURSES:

8-10 UNITS

• **SELECT ONE OF THE FOLLOWING:**

(2 UNITS)

- BIOL 312 GENETICS LABORATORY
- BIOL 410 MOLECULAR BIOLOGY LABORATORY
- BIOL 412 CELL BIOLOGY LABORATORY
- CHEM 356 BIOCHEMISTRY LAB

• **SELECT TWO OF THE FOLLOWING:**

(6-8 UNITS)

- BIOL 315 OR MEDICAL MICROBIOLOGY OR
- BIOL 318 MICROBIOLOGY
- BIOL 360 HISTOLOGY
- BIOL 411 CANCER BIOLOGY
- BIOL 415 BIOTECHNOLOGY
- BIOL 419 ENVIRONMENTAL MICROBIOLOGY
- BIOL 420 MICROBIOLOGY OF INFECTIOUS DISEASE
- BIOL 421 IMMUNOLOGY
- BIOL 428 VIROLOGY
- BIOL 463 DEVELOPMENTAL BIOLOGY
- CHEM 351 BIOCHEMISTRY I
- MBBB301 INTRO TO BIOINFORMATICS
- MBBB315 GENOMICS

FREE ELECTIVE:

0-4 UNITS

SELECT ONE BIOLOGY ELECTIVE FROM LISTS OF ELECTIVES IN ANY BIOLOGY CONCENTRATION OR SUCCESSFULLY COMPLETE BIOL 491 OR BIOL 499.

IF BIOL 221/221L AND BIOL 222/222L WERE COMPLETED AS PART OF THE BREADTH REQUIREMENT, THIS SATISFIES THE FREE ELECTIVE REQUIREMENT

ANCILLARY COURSES: (COMPLETED AT HARFORD CC)

0 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)**

<u>Total Credits to B.S. Degree</u>	(120)
Harford Biology A.S. Degree	60
Completion of Core at TU	15
Completion of Major Requirements at TU	23-35
Elective Credits at TU	10-22