

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)	1.	Towson Seminar	2348
MATH 109 OR	Precalculus Mathematics (GM) OR		MATH 119	2.	English Composition	4381
MATH 203 *	Calculus I (GM)	4	MATH 273	3.	Mathematics	4407
GH	Arts & Humanities (GH)	3		4.	Creativity & Creative Development	
GB	Behavioral/Social Science (GB)	3		5.	Arts & Humanities	
CHEM 111	General Chemistry I (GI)	4	CHEM 131/131L	6.	Social & Behavioral Sciences	13097/13098
CHEM 112	General Chemistry II A (GI)	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		10.	Metropolitan Perspectives	
				11.	The United States as a Nation	
				12.	Global Perspectives	
GH	Arts & Humanities (GH) **	3		13.	Diversity & Difference	
				14.	Ethical Issues & Perspectives	
Total CORE in Transfer		27				
MATH 203 OR	Calculus I (GM) or	3-4	MATH 273			4407
BIO ELECT *	Biology Elective					
BIO 208	Genetics	4	BIO 209 (309)		Transfers as lower level credit.	11379
BIO 120	General Biology I (GI)	4	BIO 200/200L			13759/13760
BIO 121	General Biology II (GI)	4	BIO 202			667
PHYS 101 OR	Introductory Physics I (GI) OR	4	PHYS 211			6800
PHYS 200/203	Gen Phys: Mechanics & Particle Dynamics w/LAB (GI/GS)	4	PHYS 241			6805
PHYS 102 OR	Introductory Physics II (GI) OR	4	PHYS 212			6801
PHYS 204	Gen Phys: Vibrations, Waves, Heat, Electricity & Magnetism (GI)	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		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.

HARFORD COMMUNITY COLLEGE- Biology A.S. Degree
TOWSON UNIVERSITY- Biological Sciences B.S. Degree – Cell & Molecular Biology Concentration

***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.

HARFORD COMMUNITY COLLEGE - Biology A.S. Degree
TOWSON UNIVERSITY - Biological Sciences B.S. Degree – Cell & Molecular Biology Concentration
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:

BIOL 204 EDUCATIONAL AND CAREER PLANNING FOR THE BIOLOGIST

1 UNIT

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

HARFORD COMMUNITY COLLEGE - Biology A.S. Degree
TOWSON UNIVERSITY - Biological Sciences B.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

HARFORD COMMUNITY COLLEGE- Biology A.S. Degree
TOWSON UNIVERSITY - Biological Sciences B.S. Degree – Cell & Molecular Biology Concentration

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	23-35
Elective Credits at TU	10-22

