

HARFORD COMMUNITY COLLEGE - COMPUTER SCIENCE A.S. DEGREE
TOWSON UNIVERSITY/ MB3 - BIOINFORMATICS TRACK B.S. DEGREE

HARFORD COMMUNITY COLLEGE			TOWSON UNIVERSITY			
COURSE #	COURSE TITLE	CRS.	TU EQUIVALENCY	CORE	COMMENTS	COURSE ID#
				1.	Towson Seminar	
ENG 101	English Composition	3	ENGL 102	2.	English Composition	2348
MATH 203	Calculus I	4	MATH 273	3.	Mathematics	4407
				4.	Creativity & Creative Development	
**GH	Arts & Humanities (GH)	3	Depends on choice.	5.	Arts & Humanities	
**GB	Behavioral and Social Sciences (GB)	3	Depends on choice.	6.	Social & Behavioral Sciences	
CHEM 111	General Chemistry I	4	CHEM 110 <i>OR</i> CHEM 131 <i>AND</i> CHEM 131L	7.	Biological & Physical Science w/Lab	1041 13097 13098
CHEM 112	General Chemistry II	4	CHEM 111 <i>OR</i> CHEM 132 <i>AND</i> CHEM 132L	8.	Biological & Physical Science	1042 13099 13100
				9.	Advanced Writing Seminar	
				10.	Metropolitan Perspectives	
**GB	Behavioral and Social Sciences (GB)	3	Depends on choice.	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				
BIO 120	General Biology I	4	BIOL 201			666
CIS 115	Fundamentals of Programming	3	COSC 175			1335
CIS 201	Assembly Programming Language	4	COSC TLL			10186
CIS 205 <i>OR</i> CIS	Introduction to Visual Basic.NET <i>OR</i> CIS Programming Language Elective	4	CIS 265 or COSC TLL		Equivalency depends on course choice.	1348 10186
CIS 214	Java Programming Language	4	COSC TLL			10186
CIS 221	C++ Programming Language	4	COSC TLL			10186
CSI 131	Computer Science I	4	COSC 236			1344
CSI 132	Computer Science II	4	COSC 237			1345
MATH 204	Calculus II	4	MATH 274			4408
MATH 210	Discrete Structures	3	MATH 263			4401
	Physical Education Elective	1	PHEA TLL			10564
	Physical Education/Fitness Elective	1	PHEA TLL			10564
Program Requirements at Harford		40				
Total Program Requirements at Harford		67				
Total Credits in Transfer		64*				

* **64** credit transfer maximum. **18** Core Curriculum units must be completed at Towson University: 1, 4, 9, 10, 12, and 14.

** Harford Community College students must complete one 3 credit diversity course which appears on the "Approved List" in the HCC catalog.

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Major Requirements to be completed at Towson (37-42 Units)

BIOL 309	Genetics	(4)
BIOL 409	Molecular Biology	(4)
CHEM 331	Organic Chemistry I <i>and</i>	
CHEM 332	Organic Chemistry II	
	<i>Or</i>	(5-10)
CHEM 330	Essentials of Organic Chemistry	
CHEM 351	Intro Biochemistry	(3)
CIS 458	Organizational Database Management Systems	
	<i>Or</i>	(3)
COSC 457	Database Management Systems	
COSC 336	Data Structures and Algorithm Analysis	(3)
MATH 330	Intro to Statistical Methods	(4)
MBBB 301	Bioinformatics	(4)
MBBB 401	Advanced Bioinformatics	(3)
MBBB 493	Seminar in Bioethics	(1)

Complete a minimum of 3 units from the following: (3)

BIOL491	Elective in Independent Research	
BIOL 492	Independent Research	
CHEM 491	Independent Research in Chemistry	(3)
COSC 495	Independent Study in Computer Science	
ELECTIVE	Approved Upper-level elective	

Total Credits to B.S. Degree (120-124)

Harford Computer Science A.S. Degree	64
Completion of Core at TU	18
Completion of Major Requirements at TU	37-42
General Electives	0-1