

**HARFORD COMMUNITY COLLEGE/PHYSICS A.S. DEGREE  
TOWSON UNIVERSITY/PHYSICS: Computational Physics Concentration B.S. DEGREE**

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 203	Calculus I (GM)	4	ENGL 102 MATH 273	2. 3.	English Composition Mathematics	4407	
CIS 102 *	Introduction to Information Science (GI)	3	COSC 111	4.	Creativity & Creative Development	13369	
GH	Arts & Humanities (GH)	3	Depends on choice.	5.	Arts & Humanities		
GB	Behavioral & Social Science (GB)	3	Depends on choice.	6.	Social & Behavioral Sciences		
CHEM 111	General Chemistry I (GI)	4	CHEM 131/131L	7.	Biological & Physical Science w/Lab	13097/13098	
CHEM 112	General Chemistry II A (GI)	4	CHEM 132/132L	8.	Biological & Physical Science	13099/13100	
				9.	Advanced Writing Seminar		
GH**	Arts & Humanities (GH)	3	Depends on choice.	10.	Metropolitan Perspectives		
GB**	Behavioral & Social Science (GB)	3	Depends on choice.	11.	The United States as a Nation		
ELECTIVE***	General Elective	3	Depends on choice.	12. 13.	Global Perspectives Diversity & Difference		
				14.	Ethical Issues & Perspectives		
<b>Total CORE in Transfer</b>		<b>33</b>					
MATH 204	Calculus II (GM)	4	MATH 274			4408	
MATH 206	Calculus III	4	MATH 275			4409	
MATH 217	Linear Algebra	4	MATH 265			4403	
MATH 208	Elementary Differential Equations	3	MATH T74 (374)		Transfers as lower-level credit.	10493	
PHYS 200/203****	Gen Phys: Mechanics & Particle Dynamics w/lab (GI/GS)	4	PHYS 241			6805	
PHYS 204	Gen Phys: Vibrations, Waves, Heat, Electricity & Magnetism (GI)	4	PHYS 242			6806	
PHYS 205	Gen Phys: Electrodynamics, Light Relativity & Modern Physics	4	PHYS 243			6807	
	Physical Education Elective	1	PHEA TLL			10564	
<b>Program Requirements at Harford</b>		<b>28</b>					
<b>Total Program Requirements at Harford</b>		<b>61</b>					
<b>Maximum Credits in Transfer</b>		<b>64</b>					

**64 credit transfer maximum. 9 Core Curriculum units must be completed at Towson University: 9. Advanced Writing Seminar; 10. Metropolitan Perspectives and 14. Ethical Issues and Perspectives.**

\*Students should choose CIS 102 as their CIS Elective to satisfy a Core requirement at TU. Students who do not choose CIS 102 will be required to take a Core 4 course at TU.  
\*\* One GB or GH course must also satisfy Diversity requirement at HCC.

\*\*\*Students should choose a General Education course as their General Elective to satisfy Core requirements. Students who do not choose a General Education course may need to take an additional Core class at TU.

\*\*\*\*Students must take PHYS 200 with PHYS 203 to receive equivalency of PHYS 241 and to satisfy the major requirement at TU.

**HARFORD COMMUNITY COLLEGE/PHYSICS A.S. DEGREE**  
**TOWSON UNIVERSITY/PHYSICS: Computational Physics Concentration B.S. DEGREE**

<b>CORE REQUIREMENTS TO BE COMPLETED AT TOWSON</b>	<b>9-12 UNITS</b>
CORE 9: Advanced Writing Seminar	(3 UNITS)
CORE 10: Metropolitan Studies	(3 UNITS)
CORE 14: Ethical Issues and Perspectives	(3 UNITS)

*Students who did not take CIS 102 as CIS elective may need to complete a Core 4 course. (3 UNITS)*

**PROGRAM REQUIREMENTS TO BE COMPLETED AT TOWSON 50 UNITS**

<b>REQUIRED PHYSICS COURSES:</b>	<b>22 UNITS</b>
PHYS 185 INTRODUCTION HONORS SEMINAR IN PHYSICS	(1 UNIT)
PHYS 270 COMPUTERS IN PHYSICS	(4 UNITS)
PHYS 307 INTRODUCTION MATHEMATICAL PHYSICS	(3 UNITS)
PHYS 311 MODERN PHYSICS I	(3 UNITS)
PHYS 341 INTERMEDIATE PHYSICS LABORATORY	(3 UNITS)
PHYS 351 MECHANICS	(4 UNITS)
PHYS 354 ELECTRICITY & MAGNETISM	(4 UNITS)

**COURSES FOR COMPUTATIONAL PHYSICS CONCENTRATION: 28 UNITS**

<b>• ADVANCED PHYSICS COURSES</b>	
PHYS 337 DIGITAL ELECTRONICS	(4 UNITS)
PHYS 385 PHYSICS SEMINAR	(1 UNIT)
PHYS 486 PHYSICS SEMINAR II	(1 UNIT)
<b>• NON-PHYSICS REQUIREMENTS</b>	
COSC 236 INTRODUCTION TO COMPUTER SCIENCE I	(4 UNITS)
COSC 237 INTRODUCTION TO COMPUTER SCIENCE II	(4 UNITS)
COSC 290 PRINCIPLES OF COMPUTER ORGANIZATION	(4 UNITS)
COSC 336 DATA STRUCTURES AND ALGORITHM ANALYSIS	(4 UNITS)
MATH 263 DISCRETE MATHEMATICS	(3 UNITS)
MATH 435 NUMERICAL ANALYSIS I	(3 UNITS)

**HARFORD COMMUNITY COLLEGE/PHYSICS A.S. DEGREE  
TOWSON UNIVERSITY/PHYSICS: Computational Physics Concentration B.S. DEGREE**

**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)

<b><u>Total Credits to B.S. Degree</u></b>	<b>(120-123)</b>
Harford Biology A.S. Degree	61
Completion of Core at TU	9-12
Completion of Major Requirements at TU	50
Elective Credits at TU	0