

**HARFORD COMMUNITY COLLEGE/PHYSICS A.S. DEGREE
TOWSON UNIVERSITY/PHYSICS: Applied 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	
MATH 203	Calculus I (GM)	4	MATH 273	2.	English Composition	2348
CIS 102 *	Introduction to Information Science (GI)	3	COSC 111	3.	Mathematics	4407
GH	Arts & Humanities (GH)	3	Depends on choice.	4.	Creativity & Creative Development	13369
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	
				10.	Metropolitan Perspectives	
GH**	Arts & Humanities (GH)	3	Depends on choice.	11.	The United States as a Nation	
GB**	Behavioral & Social Science (GB)	3	Depends on choice.	12.	Global Perspectives	
ELECTIVE***	General Elective	3	Depends on choice.	13.	Diversity & Difference	
				14.	Ethical Issues & Perspectives	
Total CORE in Transfer		33				
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 (GL/GS)	4	PHYS 241			6805
PHYS 204	Gen Phys: Vibrations, Waves, Heat, Electricity & Magnetism (GL)	4	PHYS 242			6806
PHYS 205	Gen Phys: Electrodynamics, Light Relativity & Modern Physics	4	PHYS 243			6807
	Physical Education Elective	1	PHEA TLL			10564
Program Requirements at Harford		28				
Total Program Requirements at Harford		61				
Maximum Credits in Transfer		64				

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: Applied Physics Concentration B.S. DEGREE**

CORE REQUIREMENTS TO BE COMPLETED AT TOWSON 9-12 UNITS

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 47 UNITS

REQUIRED PHYSICS COURSES: 22 UNITS

PHYS 185 INTRODUCTORY HONORS SEMINAR IN PHYSICS	(1 UNIT)
PHYS 270 COMPUTERS IN PHYSICS	(4 UNITS)
PHYS 307 INTRODUCTORY 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 APPLIED PHYSICS CONCENTRATION: 25 UNITS

- **ADVANCED PHYSICS COURSES**
- PHYS 312 MODERN PHYSICS II (3 UNITS)
- PHYS 335 BASIC ELECTRONICS (4 UNITS)
- OR**
- PHYS 337 DIGITAL ELECTRONICS (3 UNITS)
- PHYS 342 INTERMEDIATE PHYSICS LABORATORY II (4 UNITS)
- PHYS 361 OPTICS FUNDAMENTALS (1 UNIT)
- PHYS 385 PHYSICS SEMINAR (1 UNIT)
- PHYS 486 PHYSICS SEMINAR II

- **ELECTIVES**
- AT LEAST NINE UNITS OF UPPER LEVEL PHYSICS OR ASTRONOMY ELECTIVES (9 UNITS)
- **NON-PHYSICS REQUIREMENTS (COMPLETED AT HCC)** (0 UNITS)

**HARFORD COMMUNITY COLLEGE/PHYSICS A.S. DEGREE
TOWSON UNIVERSITY/PHYSICS: Applied 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)

Total Credits to B.S. Degree	(120)
Harford Biology A.S. Degree	61
Completion of Core at TU	9-12
Completion of Major Requirements at TU	47
Elective Credits at TU	0-3