

**RADIOLOGICAL HEALTH SCIENCES** 

Health Physics Concentration College of Health and Human Sciences HLSC-BS RADH-HLPH 120 credits

Student:		PUID:	Catalog Term: Fall 2019				
Additional	Majors:	Minors:					
	urements (61 credits)						
	BIOL 11000 Fundamentals of Biology I <b>[Satisfies</b> ]	1 Science Core Coursel					
(4)	BIOL 11100 Fundamentals of Biology II <b>[Satisfies</b>						
(4)	BIOL 20300 Human Anatomy & Physiology						
(4)	BIOL 20400 Human Anatomy & Physiology						
(4)	CHM 11500 General Chemistry						
(4)	CHM 11600 General Chemistry						
(2)	HSCI 10100 Introduction to Health Sciences Profe	essions					
(3)	HSCI 20100 Principles of Public Health Science [S		ociety Corel				
(3)	HSCI 20200 Essentials of Environmental, Occupation						
(3)	HSCI 31200 Radiation Science Fundamentals (mu						
(2)	HSCI 31300 Principles of Radiation Detection & M		"C" or higher)				
(2)	HSCI 51400 Radiation Instrumentation Laborator						
(3)	HSCI 54000 Radiation Biology (must earn a grade		- )				
(2)	HSCI 57400 Medical Health Physics (must earn a						
(4)	MA 26100 Multivariate Calculus						
(3)	PHYS 24100 Electricity & Optics						
(1)	PHYS 34000 Modern Physics Laboratory						
	PHYS 34200 Modern Physics						
	STAT 30100 Elementary Statistical Methods						
	Math-Computer Science	Selective – <i>select from list</i>					
	hysics Concentration (38-40 credits)						
	HSCI 52600 Principles of Health Physics & Dosim		igher)				
	HSCI 53400 Applied Health Physics (must earn a						
(4-5	)MA 16100 Plane Analytic Geometry & Calculus I o	r MA 16500 Analytic Geometry & C	alculus I <b>[Satisfies Quantitative</b>				
	Reasoning Core]						
	) MA 16200 Plane Analytic Geometry & Calculus II	or MA 16600 Analytic Geometry &	Calculus II				
	NUCL 20000 Introduction to Nuclear Engineering						
(2)	NUCL 20500 Nuclear Engineering Undergraduate						
(2)	NUCL 30500 Nuclear Engineering Undergraduate	Laboratory II					
	PHYS 17200 Modern Mechanics						
(3)	General Science or Radio	logical Health Sciences Selective – s	select from list				
	Health Physics Selective -	- select from list					
(3)	Health Physics Selective -	- select from list	C III				
(4)	Math-Computer Science of	or General Science Selective - select	from list				
	artmental/Program Course Requirements (18-1						
	COM 11400 Fundamental of Speech Communication						
(4-3	)ENGL 10600 First-Year Composition or ENGL 108		ition [Satisfies Written				
	<b>Communication Core] and [Information Litera</b>						
(3)	[Behavioral/Social Science Co	ore] select course from University lis	st				
(3)	English Selective – select any 2	20000 level or above ENGL course					
(3)	HSCI Humanities, Behavioral	/Social Sciences Selective – select	t from HSCI list				
(3)	[Humanities Core] select cours	se from University list					
Electives (	) 2 avadita)						
Electives [	)-3 credits)						
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All students must complete 32 credits of 30000 level or higher courses at Purdue for graduation.

## 120 credits required for Bachelor of Science degree

Must earn a grade of "C" or higher in HSCI 31200, HSCI 31300, HSCI 51400, HSCI 52600, HSCI 53400, HSCI 54000, and HSCI 57400.

An Ethics course (such as PHIL 11100 Ethics or PHIL 29000 Environmental Ethics) is highly recommended.

## **General Science Selective List**

AT 57200 Human Error and Safety **BIOL 41500 Introduction To Molecular Biology BIOL 44400 Human Genetics** BIOL 51600 Molecular Biology Of Cancer BIOL 54200 Animal Cell Culture CHM 22400 Introductory Quantitative Analysis CHM 25500 Organic Chemistry CHM 25501 Organic Chemistry Laboratory CHM 25600 Organic Chemistry CHM 25601 Organic Chemistry Laboratory CHM 33300 Principles of Biochemistry HK 44500 Principles of Epidemiology HSCI 34500 Introduction To Occupational and **Environmental Health Science** HSCI 54700 Fundamentals of Epidemiology HSCI 55100 Physical Agents in Environmental Health HSCI 55200 Introduction to Aerosol Science HSCI 56000 Toxicology HSCI 58000 Occupational Safety and Ergonomics PHIL 27000 Biomedical Ethics PHIL 29000 Environmental Ethics PHIL 35000 Philosophy and Probability PHYS 22000 General Physics PHYS 22100 General Physics PHYS 31000 Intermediate Mechanics PHYS 36000 Quantum Mechanics PHYS 55000 Introduction To Quantum Mechanics PHYS 55600 Introductory Nuclear Physics PHYS 56400 Introduction To Elements Particle Physics PHYS 56500 Introduction To Elementary Particle Physics II

### **Health Physics Selective List**

HSCI 39000	Radiological Emergency Management
HSCI 41500	Introduction to Nuclear and Radiological Source
	Security
HSCI 48500	Health Physics Internship
HSCI 54700	Fundamentals of Epidemiology
HSCI 55100	Physical Agents in Environmental Health
HSCI 55200	Introduction to Aerosol Science
HSCI 59000	Public Health Law and Policy
ME 20000	Thermodynamics I
ME 27000	Basic Mechanics I
NRES 28000	Hazardous Waste Handling
NUCL 30000	Nuclear Structure and Radiation Interactions
NUCL 31000	Introduction to Neutron Physics
NUCL 35000	Nuclear Thermal–Hydraulics I
NUCL 35100	Nuclear Thermal-Hydraulics II
NUCL 50100	Nuclear Engineering Principles
NUCL 50300	Radioactive Waste Management
NUCL 50400	Nuclear Engineering Experiments
NUCL 51000	Nuclear Reactor Theory I

#### HSCI Humanities, Behavioral/Social Sciences Selective List - select any 10000-59999 course(s) from the following subjects:

Anthropology (ANTH) Art & Design (AD) Classics (CLCS) Communication (COM) Dance (DANC) Economics (ECON) English (ENGL) Foreign Languages & Literatures (FLL) History (HIST) Interdisciplinary Studies (IDIS) Music (MUS) Philosophy (PHIL) Political Science (POL) Psychology (PSY) Sociology (SOC) Theatre (THTR)

### Math-Computer Science Selective List

CS 15900	Programming Applications for Engineers
CS 18000	Problem Solving and Object-Oriented Programming
CS 31400	Numerical Methods
CS 47800	Introduction to Bioinformatics
MA 26200	Linear Algebra and Differential Equations
MA 41600	Probability
MA 52700	Advanced Mathematics for Engineers and Physicists I
MA 52800	Advanced Mathematics for Engineers and Physicists II
PHYS 58000	Computational Physics
STAT 31100	Introductory Probability
STAT 51200	Applied Regression Analysis

#### **Radiological Health Sciences Selective List for HLPH**

Any course on the Health Physics Selective List						
HSCI 19000, 2	HSCI 19000, 29000, 39000, 49000, or 59000 - Special Topics in					
	Radiological Health Sciences					
HSCI 31000	Imaging in Medicine					
HSCI 57000	Introduction to Medical Diagnostic Imaging					
HSCI 57200 Radiation Oncology Physics						
NUPH 55000	Introduction to Positron Emission Tomography					

## University Foundational Learning Outcomes List: https://www.purdue.edu/provost/initiatives/curriculum/course.html

A student may elect the Pass / Not-Pass (P/NP) grading option for elective courses only, unless an academic unit requires that a specific departmental course/s be taken P/NP. Students may elect to take University Core Curriculum courses P/NP; however, some major Plans of Study require courses that also fulfill UCC foundational outcomes. In such cases, students may not elect the P/NP option. A maximum of 24 credits of elective courses under the P/NP grading option can be used toward graduation requirements. For further information, students should refer to the College of Health and Human Sciences P/NP Policy.

Students are encouraged to use this advising worksheet as a resource when planning progress toward completion of degree requirements. An Academic Advisor may be contacted for assistance in interpreting this worksheet. This worksheet is not an academic transcript, and it is not official notification of completion of degree or certificate requirements. The University Catalog is the authoritative source for displaying plans of study. The student is ultimately responsible for knowing and completing all degree requirements

RADH-HLPH 5/2019



# RADIOLOGICAL HEALTH SCIENCES Health Physics Concentration College of Health and Human Sciences

Suggested Arrangement of Courses:

Credits	Fall 1st Year	Prerequisite	Credits	Spring 1st Year	Prerequisite
4	*BIOL 11000 <sup>CC</sup>		4	*BIOL 11100 <sup>cc</sup>	BIOL 11000
4	*CHM 11500 <sup>CC</sup> M.	A 15400 or MA 15800 or ALEKS = 75	4	*CHM 11600 <sup>cc</sup>	CHM 11200 or 11500
3	*COM 11400 <sup>CC</sup>		4-3	*ENGL 10600 OR 10800 <sup>cc</sup>	
2	HSCI 10100 <sup>CC</sup> Fall only		5-4	*MA 16200 or 16600 <sup>cc</sup>	MA 16500 or 16100 = C-
5-4	*MA 16100 or 16500 <sup>cc</sup>	ALEKS = 85			
17-18			15-17		

Credits	Fall 2nd Year	Prerequisite	Credits	Spring 2nd Year	Prerequisite
4	*BIOL 20300 <sup>CC</sup> Fall only		4	*BIOL 20400 <sup>cc</sup> Spring only	BIOL 20300
3	*HSCI 20200 <sup>CC</sup> Fall only	3 credits in BIOL & CHM	3	*HSCI 20100 <sup>cc</sup> Spring only	Classification of 03
4	*MA 26100 <sup>CC</sup>	MA 16200 or 16600 = C-	3	NUCL 20000 Spring only	MA 16200 or 16600 & PHYS 17200
4	*PHYS 17200 <sup>cc</sup>	MA 16100 or 16500 or ALEKS = 85	2	NUCL 20500 Spring only	NUCL 20000 or may be taken concurrently
			1	Elective	
15			13		

Credits	Fall 3rd Year		Prerequisite	Credits	Spring 3rd Year	Prerequisite
3	^HSCI 31200	MA 16600	or 16200 & PHYS 17200 or NUCL 20000	2	^HSCI 51400 Spring only	HSCI 31200
	Fall only					
2	^HSCI 31300	MA 16600	or 16200 & PHYS 17200 or NUCL 20000	3	^HSCI 54000 Spring only	BIOL 11100 & HSCI 31200
	Fall only	IVIA 10000	101 16200 & PHYS 17200 OF NOCE 20000			
2	NUCL 30500 Fall o	nly	NUCL 20500	3	PHYS 34200	PHYS 24100
3	*PHYS 24100 PHYS 17200		1	PHYS 34000 PHYS 24100 or 34200 may be taken concurrentl		
3	*STAT 30100			3	*Humanities BSS Core	Select from University list
					Selective	
3	HSCI Humanities S	el.	Select from HSCI list	3	English Selective Se	elect any 20000 or above ENGL course
16				15		

Credits	Fall 4th Year	Prerequisite	Credits	Spring 4th Year	Prerequisite
3	^HSCI 52600 Fall only	HSCI 31200	3	^HSCI 53400 Spring only	HSCI 31200
2	^HSCI 57400 Fall only н 24100	SCI 31200 & MA 26100 & PHYS	4	MA/CS Science Selective	Select from list
3	MA/CS Selective	Select from list	3	General Science or RADH Se	I. Select from list
3	Health Physics Sel.	Select from list	3	*Humanities Core Selective	Select from University list
3	Health Physics Sel.	Select from list			
2	Elective				
16			13		

\*Satisfies a University Core Requirement.

<sup>cc</sup> Critical Course – a course that a student must be able to pass to persist and succeed in a particular major.

^A minimum grade of C must be earned in HSCI 31200, 31300, 51400, 52600, 53400, 54000, and 57400, and they cannot be taken as pass/no pass.

Students must complete 32 credit hours of 30000 level or higher courses at Purdue University for graduation. 120 semester credits required for Bachelor of Science degree.

2.0 Graduation GPA required for Bachelor of Science degree.

The student is ultimately responsible for knowing and completing all degree requirements.

Degree Works is knowledge source for specific requirements and completion