

# Radiation and Health Physics

## Bachelor of Science (BS)

This degree map is based on the 2023-24 Academic Catalog and is subject to change. Students should meet with their academic advisor each semester and use Degree Works to monitor their individual progress toward degree completion. The time it takes to earn a degree will vary based on several factors including summer/winter enrollment, dual enrollment and number of courses successfully completed each semester. We recommend taking a minimum of 15 credits each fall and spring semester.

### Sample 4-Year Plan

<b>First Year</b>			
<b>Fall Courses</b>	<b>Credits</b>	<b>Spring Courses</b>	<b>Credits</b>
RASC140 Radioecology or RASC150 Radiation Regulations	3	PHYS211 General Phys.ics 1 or PHYS208 Intro to Physics 1	4
First Year Seminar	3	CHEM122 General Chemistry 2	4
CHEM121 General Chemistry 1	4	STAT141 Intro to Statistics or STAT241 Probability and Statistics	3
MATH160 Calculus I or MATH140 Pre-Calculus	4	Oral Communication Course	3
English Writing Course	3		
Semester Total	17	Semester Total	14
<b>Second Year</b>			
<b>Fall Courses</b>	<b>Credits</b>	<b>Spring Courses</b>	<b>Credits</b>
RASC140 Radioecology or RASC150 Radiation Regulations	3	General Education Course	3
PHYS212 General Physics 2 or PHYS209 Intro to Physics 2	4	(Ethical reasoning GE)	3
(Global Perspectives GE)	3	(Critical Reasoning GE)	3
(Diversity of History GE)	3	(Technology GE-programming)	3
BIOL110 Principles of Biology 1	3	BIOL111 Principles of Biology 2	4
Semester Total	16	Semester Total	16
<b>Third Year</b>			
<b>Fall Courses</b>	<b>Credits</b>	<b>Spring Courses</b>	<b>Credits</b>
PHYS315 Analog Electronics or PHYS316 Digital Electronics or ENGT141 Electronics	3	BIO411 Radiation Biology	3
(Free elective)	3	RASC Elective I	3
(Literature GE)	3	(Arts or Creativity GE)	3
Bio Elective I or BIOL180 Anatomy and Physiology I	3 or 4	Bio Elective II or BIOL181 Anatomy and Physiology II	3 or 4
BIOL208 Human Genetics or BIO209 Genetics	4	RASC410 Radiation Detection Lab**	3
Semester Total	13 or 14	Semester Total	15 or 16
<b>Fourth Year</b>			
<b>Fall Courses</b>	<b>Credits</b>	<b>Spring Courses</b>	<b>Credits</b>
RASC360 Health Physics	3	RASC460 Applied Health Physics	3
RASC Elective II	3	RASC498 Internship in Health Physics	3
(General Education)	3	(Free elective)	3
(Free elective)	3	(Free elective)	3
(Free elective)	3		
Semester Total	15	Semester Total	12

### Winter/Summer College - Optional

While not required, Winter and Summer sessions are offered each year and may help you stay on track or get ahead. You may take up to seven (7) credits during Winter College and up to 14 credits during Summer College.

# Radiation and Health Physics

## Curriculum Checklist

### Required Courses (53 credits)

- \_\_\_ RASC140 Radioecology (3)
- \_\_\_ RASC150 Radiation Regulations (3)
- \_\_\_ BIOL411 Radiation Biology (3)
- \_\_\_ RASC410 Radiation Detection Lab (3)
- \_\_\_ RASC360 Health Physics (3)
- \_\_\_ RASC460 Applied Health Physics (3)
- \_\_\_ RASC498 Internship in Health Physics (3)
- \_\_\_ PHYS315 Analog Electronics or PHYS316 Digital Electronics or ENGT141 Electronics (3)
- \_\_\_ PHYS211 Gen. Phys. 1 or PHYS208 Intro. Physics 1 (4)
- \_\_\_ PHYS212 Gen. Phys. 2 or PHYS209 Intro. Physics 2 (4)
- \_\_\_ CHEM121 Gen. Chem 1 (4)
- \_\_\_ CHEM122 Gen. Chem 2 (4)
- \_\_\_ MATH 160 Calculus I or MATH140 Pre-Calculus (4)
- \_\_\_ STAT141 Intro to Statistics or STAT241 Probability and Statistics (3)
- \_\_\_ BIO110 Principles of Biology 1 (3)
- \_\_\_ BIO208 Human Genetics or BIO209 Genetics (3)

### Elective Courses (6-7 credits)

- \_\_\_ PHY205 Physics for Medical Imaging (3)
- \_\_\_ CSMC115 Computer Science Programming (3)
- \_\_\_ MATH170 Calculus II (4)
- \_\_\_ BIOL180 Anatomy and Physiology I (4)
- \_\_\_ BIOL181 Anatomy and Physiology II (4)
- \_\_\_ BIOL210 Genetics Lab (1)
- \_\_\_ BIOL108 Medical Terminology (3)
- \_\_\_ BIOL211 Cell Biology (3-4)
- \_\_\_ BIOL443 Molecular Biology (3)
- \_\_\_ BIOL462 Cancer Biology (3)
- \_\_\_ PHYS310 Modern Physics (3)
- \_\_\_ PHYS491 Independent Study/Research (3)
- \_\_\_ PHYS304 Nanosciences (3)
- \_\_\_ PHYS404 Advanced Nanosciences Lab (3)

## General Education Requirements

### (45 credits)

*Note: Some requirements may be fulfilled by coursework in your major program including directed Gen Ed courses noted below*

- Foundations (15 credits)
  - FYS (U): FYS100 First Year Seminar
  - Writing (W):
  - Oral Comm. (O):
  - Quantitative (Q):
  - History (H):
- Interconnections (9 credits)
  - Diversity (D):
  - Global Perspectives. (G):
  - D or G or Foreign Lang. (F):
- Citizenship & Responsibility (6 credits from at least two goals)
  - Goal 1: Citizenship (S):
  - Goal 2 Ethical Reasoning (E):
  - Goal 3: Crit. Reasoning (R):
- Natural World & Technologies (9 credits)
  - Natural World (N): CHEM121 General Chemistry 1
  - Natural World (N): CHEM122 General Chemistry 2
  - Technology (T):
- Creativity & Expression (6 credits)
  - Literature (L):
  - Arts (A) or Creativity (C):

## Degree Requirements

All students must obtain a minimum of 120 credits, complete all General Education requirements, and all requirements for the selected major. Meet with your advisor and consult Degree Works to monitor your progress and for all graduation requirements.

*A minimum GPA of 2.0 in the major and overall are required.*

## Campus Locations

- |                   |  |
|-------------------|--|
| <b>Bloomsburg</b> | <input checked="" type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input checked="" type="checkbox"/> Blended |
| <b>Lock Haven</b> | <input checked="" type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input checked="" type="checkbox"/> Blended |
| <b>Mansfield</b>  | <input checked="" type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input checked="" type="checkbox"/> Blended |
| <b>Clearfield</b> | <input type="checkbox"/> Online; <input type="checkbox"/> In-person; <input type="checkbox"/> Blended                                  |