

# Physics, BS

## Bachelor of Science in Physics Degree Program Requirements

Prairie View A&M University is a member of the Texas Physics Consortium (TPC) that offers a Joint BS Degree in Physics with member institutions collectively offering more than 24 SCH of advanced physics core courses via Trans Texas Video Network (TTVN).

To graduate with a Bachelor of Science degree in Physics, a minimum of 120 semester credit hours (SCH) are required, divided into three (3) categories of required course sequences: (1) Core Curriculum courses (42 SCH), (2) Major courses (60 SCH), and (3) Specialization (18 SCH). A minor may be chosen depending upon the student's preference and career choice.

**Complete Core Curriculum Listing at <https://catalog.pvamu.edu/universitycorecurriculum/>**

### Core Curriculum 42 Credit Hours

Communication		6
ENGL 1301	Freshman Composition I	
ENGL 1302	Freshman Composition II	
Mathematics		3
MATH 1314	College Algebra	
Life and Physical Sciences		6
CHEM 1303	General Inorganic Chemistry I	
PHSC 1315	Physical Science I	
Language, Philosophy, and Culture (Select One)		3
Creative Arts (Select One)		3
American History		6
HIST 1301	United States History I	
HIST 1302	United States History II	
Government/Political Science		6
POSC 2305	American Government	
POSC 2306	Texas Government	
Social and Behavioral Sciences (Select One)		3
Component Area Option One (Select One)		3
Component Area Option Two		3
COMM 1311	Introduction to Speech Communication	

### Major Required Courses

PHYS 2325	University Physics I	3
PHYS 2125	University Physics Lab I	1
PHYS 2326	University Physics II	3
PHYS 2126	University Physics Lab II	1
PHYS 3310	Mechanics I	3
PHYS 3312	Electricity and Magnetism I	3
PHYS 3316	Mathematical Physics I	3
PHYS 3318	Modern Physics I	3
PHYS 3324	Introduction to Nuclear, Particle and Radiation Physics	3
PHYS 4302	Introductory Quantum Mechanics I	3
PHYS 4306	Thermodynamics and Statistical Mechanics	3
PHYS 4310	Advanced Physics Lab	3
PHYS 4191	Physics Research Project	1
PHYS 4192	Physics Research Seminar	1
MATH 2413	Calculus with Analytic Geometry I	4
MATH 2414	Calculus with Analytic Geometry II	4
MATH 2320	Differential Equations	3
MATH 3401	Calculus III	4
CHEM 1111	General Chemistry Lab I	1

PHSC 1112	Sci Lab	1
PHSC 1317	Physical Science II	3
<b>Physics Electives: Select 6 hours from any 3000 or 4000 level Physics course from Approved TPC Courses</b>		<b>6</b>
<b>Specialization: Select 18 hours from any discipline listed below, in consultation with your faculty advisor:</b>		<b>18</b>
Any PHYS, PHSC, MATH, CHEG, CPET, COMP, CVEG, GNEG, ELEG, ELET, BIOL, CHEM OR MCEG		
<b>Total Hours</b>		<b>120</b>

## Bachelor of Science in Physics Degree Sequence

Core: <https://catalog.pvamu.edu/universitycorecurriculum/>

### Freshman

Fall - Semester 1	Hours	Spring - Semester 2	Hours
Mathematics Core		3 Component Area Option Two Core	3
MATH 1316		COMM 1311	
Communication Core		3 Communication Core	3
ENGL 1301		ENGL 1302	
Component Area Option One Core		3 MATH 2413	4
Life and Physical Sciences Core		3 Life and Physical Sciences Core	3
PHSC 1315		CHEM 1303	
PHSC 1112		1 CHEM 1111	1
Creative Arts Core		3	
<b>Total</b>		<b>16 Total</b>	<b>14</b>

**Total Hours: 30**

### Sophomore

Fall - Semester 1	Hours	Spring - Semester 2	Hours
MATH 2414		4 American History Core	3
PHYS 2325		3 HIST 1302	
PHYS 2125		1 MATH 2320	3
American History Core		3 PHYS 2326	3
HIST 1301		PHYS 2126	1
Government/Political Science Core		3 Government/Political Science Core	3
POSC 2305		POSC 2306	
		Language, Philosophy & Culture Core	3
<b>Total</b>		<b>14 Total</b>	<b>16</b>

**Total Hours: 30**

### Junior

Fall - Semester 1	Hours	Spring - Semester 2	Hours
MATH 3401		4 PHYS 3316	3
PHYS 3310		3 PHYS 3318	3
PHYS 3312		3 PHYS 4310	3
Physics Elective		3 Physics Elective	3
Specialization Requirement		3 Specialization Requirement	3
<b>Total</b>		<b>16 Total</b>	<b>15</b>

**Total Hours: 31**

### Senior

Fall - Semester 1	Hours	Spring - Semester 2	Hours
PHYS 4302		3 PHSC 1317	3
PHYS 4306		3 PHYS 3324	3
PHYS 4191		1 PHYS 4192	1
Specialization Requirement		3 Specialization Requirement	3

Specialization Requirement	3 Specialization Requirement	3
Social and Behavioral Sciences Core	3	
<b>Total</b>	<b>16 Total</b>	<b>13</b>

**Total Hours: 29**

Name	Unit
------	------

Total Semester Credit Hours: 120

## Marketable Skills

Marketable skills, as defined by the Texas Higher Education Coordinating Board's 60x30TX Plan (<http://www.60x30tx.com/>), include interpersonal, cognitive, and applied skill areas, are valued by employers, and can be either primary or complementary to a major. Marketable skills are acquired by students through education, including curricular, co-curricular, and extracurricular activities.

## BS Physics

### *Degree Skills*

1. Data analysis and effective communication
2. Analyze and solve problems
3. Critical thinking

### *Concentration Skills*

1. Materials functionalization
2. Radiation biology
3. Instrumentation

### *Co-curricular and Extracurricular Skills*

1. Technical writing and communication for presentations and publishing
2. Collaborative skills