

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 2415	Calculus III	4
CHEM 1111	General Chemistry Lab I	1

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

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	
Total		16 Total	14

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
Total		14 Total	16

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
Total		16 Total	15

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	
Total	16 Total	13

Total Hours: 29

Name	Unit
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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