

PHYSICS (B.S.)

Degree: Bachelor of Science

Major: Physics

Concentration: Math, Chemistry or Engineering

Total Hours: 120

This degree plan places a strong emphasis on physics and mathematics. It can be tailored to meet the needs of students preparing for graduate school or employment in a variety of fields. Many students with B.S. degrees in physics from Lamar University have been highly successful graduate students in physics at some of the best universities in the U.S. Others have succeeded as engineers, mathematicians, physicians, medical researchers, lawyers, teachers, etc. Faculty advisors help plan programs to satisfy the needs of individual students.

Code	Title	Hours
General Education Core Curriculum		
<i>Communication</i>		
ENGL 1301	Composition I	3
Select one of the following:		3
COMM 1315	Public Speaking I	
COMM 1321	Business and Professional Speech	
DSDE 1371	ASL I	
ENGL 1302	Composition II	
FREN 1311	Beginning French I	
SPAN 1311	Beginning Spanish I	
<i>Mathematics - 4 Hours</i>		
MATH 2413	Calculus and Analytical Geometry I	4
<i>Life and Physical Sciences - 8 Hours</i>		
PHYS 2425	University Physics I	4
PHYS 2426	University Physics II	4
<i>Language, Philosophy and Culture</i>		
Select one of the following:		3
DSDE 1374	Introduction to Deaf Studies	
ENGL 2300	Close Reading II	
ENGL 2322	British Literature	
ENGL 2326	American Literature	
ENGL 2331	World Literature	
ENGL 2376	African-American Literature	
FREN 2312	Intermediate French II	
PHIL 1370	Philosophy of Knowledge	
PHIL 2306	Ethics	
SPAN 2312	Intermediate Spanish II	
<i>Creative Arts</i>		
Select one of the following:		3
ARTS 1301	Art Appreciation	
ARTS 1303	Art History I	
COMM 1375	Film Appreciation	
COSC 1324	The Art of Computer Game Development	
DANC 2304	Dance Appreciation	
MUSI 1306	Music Appreciation	

MUSI 1309	Jazz History and Appreciation	
MUSI 1310	History of Rock and Roll	
PHIL 1330	Arts and Ideas	
THEA 1310	Theatre Appreciation	
<i>American History</i>		
Select two of the following:		6
HIST 1301	U S History I 1763-1877	
HIST 1302	U S History II Since 1877	
HIST 2301	Texas History	
<i>Government/Political Science</i>		
POLS 2301	Intro to American Government I	3
POLS 2302	Intro/American Government II	3
<i>Social and Behavioral Sciences</i>		
Select one of the following:		3
ANTH 2346	Introduction to Anthropology	
ANTH 2351	Cultural Anthropology	
BULW 1370	Business Environment and Public Policy	
CRIJ 1301	Intro to Criminal Justice	
ECON 1301	Principles and Policies	
ECON 2301	Principles of Economics I Macro	
ECON 2302	Principles of Economics II Micro	
FINC 2310	Intro to Consumer Finance	
INEN 2373	Engineering Economics	
PSYC 2301	General Psychology	
PSYC 2315	Lifespan Development	
POLS 1301	Intro to Political Science	
SOCI 1301	Introduction to Sociology	
SOWK 2361	Intro Social Work	
<i>Component Area Option</i>		
ENGL 1302	Composition II	3
MATH 2414	Calculus and Analytical Geometry II	4
Required Major Courses		
<i>Physics Requirements</i>		
PHYS 3314	Mathematical Methods in the Physical Sciences	3
PHYS 3350	Modern Physics	3
PHYS 3380	Electricity & Magnetism	3
PHYS 3390	Statistical Physics	3
PHYS 3430	Analytical Mechanics	4
PHYS 4320	Introduction Quantum Mechanics	3
PHYS 4370	Solid State Phys	3
PHYS 4480	Optics	4
<i>Additional Degree Requirements</i>		
CHEM 1311	General Chemistry I	4
& CHEM 1111	and General Chemistry I Laboratory	
CHEM 1312	General Chemistry II	4
& CHEM 1112	and General Chemistry II Laboratory	
MATH 3301	Ordinary Differential Equations	3
MATH 2318	Linear Algebra	3
MATH 2415	Calculus III	4
<i>Concentration/Electives Area ¹</i>		30
Total Hours		120

Sample Concentrations**Math Concentration**

Code	Title	Hours
MATH 4302	Introduction to Partial Differential Equations	3
Upper-level Math electives (3000-4000 level)		3
Total Hours		6

Chemistry Concentration

Code	Title	Hours
CHEM 3401	Quantitative Analysis	4
CHEM 4311	Physical Chemistry I	3
Total Hours		7

Engineering Concentration

Code	Title	Hours
CVEN 2301	Statics	3
MEEN 2302	Dynamics	3
ELEN 2411	Circuits Analysis I	4
Total Hours		10

¹ See advisor for concentration and elective options.

Course	Title	Hours
First Year		
Fall		
PHYS 1370	Preparatory Physics: Foundations and Applications	3
MATH 2413	Calculus and Analytical Geometry I	4
CHEM 1311	General Chemistry I	3
CHEM 1111	General Chemistry I Laboratory	1
ENGL 1301	Composition I	3
Hours		14
Spring		
PHYS 2425	University Physics I	4
MATH 2414	Calculus and Analytical Geometry II	4
CHEM 1312	General Chemistry II	3
CHEM 1112	General Chemistry II Laboratory	1
ENGL 1302	Composition II	3
Hours		15
Second Year		
Fall		
PHYS 2426	University Physics II	4
Language/Philosophy/Culture ¹		3
MATH 2318	Linear Algebra	3
MATH 2415	Calculus III	4
Hours		14
Spring		
PHYS 3350	Modern Physics	3
PHYS 3430	Analytical Mechanics	4
MATH 3301	Ordinary Differential Equations	3
Communication ¹		3
PHYS 3314	Mathematical Methods in the Physical Sciences	3
Hours		16
Third Year		
Fall		
PHYS 3380	Electricity & Magnetism	3
PHYS 4320	Introduction Quantum Mechanics	3
Social/Behavioral Science ¹		3
HIST 1301	U S History I 1763-1877	3

Math Elective	3000:4000	3
Hours		15
Spring		
PHYS 3390	Statistical Physics	3
PHYS 4480	Optics	4
Concentration ²		3
Physics/General Electives ¹		3
HIST 1302	U S History II Since 1877	3
Hours		16
Fourth Year		
Fall		
PHYS 4370	Solid State Phys	3
Physics/General Electives ¹		3
Concentration ¹		3
POLS 2301	Intro to American Government I	3
Concentration ¹		3
Hours		15
Spring		
POLS 2302	Intro/American Government II	3
Physics/General Electives ¹		6
Creative Arts ¹		3
Special Topics ¹		3
Hours		15
Total Hours		120

¹ See a Physics advisor about options.

² Concentration can be in MATH, ENGR or CHEM.