

Physics (BA)

Total Hours Required: 120

Plan of Study

The Plan of Study is a suggested four-year course sequence to support academic planning and serves as a helpful guide. Currently enrolled students should meet with their academic advisor to tailor their course selections and timelines to their individual goals and circumstances.

Course	Title	Hours
Year 1		
Semester 1		
M 408C	Differential and Integral Calculus	4
<u>First-Year Signature Course (090)</u>		3
RHE 306	Rhetoric and Writing	3
<u>Foreign Language other than English, Beginning Proficiency</u>		3
Hours		13
Semester 2		
M 408D	Sequences, Series, and Multivariable Calculus	4
PHY 301	Mechanics	3
PHY 101L	Laboratory for Physics 301	1
<u>Visual and Performing Arts (050)</u>		3
<u>Foreign Language other than English, Beginning Proficiency</u>		3
Hours		14
Year 2		
Semester 1		
M 427J	Differential Equations with Linear Algebra	4
PHY 316	Electricity and Magnetism	3
PHY 116L	Laboratory for Physics 316	1
<u>U.S. History (060)</u>		3
<u>Foreign Language other than English, Intermediate Proficiency</u>		3
<u>Free Elective</u>		3
Hours		14
Semester 2		
M 427L	Advanced Calculus for Applications II	4
PHY 315	Wave Motion and Optics	3
PHY 115L	Laboratory for Physics 315	1
<u>U.S. History (060)</u>		3
<u>Foreign Language other than English, Intermediate Proficiency</u>		3
<u>Free Elective</u>		3
Hours		17
Year 3		
Semester 1		
PHY 355	Modern Physics and Thermodynamics	3
CH 301	Principles of Chemistry I	3
CH 104M	Introduction to Chemical Practice I	1
<u>American and Texas Government (070)</u>		3
<u>Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)</u>		3
<u>Free Elective</u>		3
Hours		16
Semester 2		
PHY 336K	Classical Dynamics	3
CH 302	Principles of Chemistry II	3
CH 104N	Introduction to Chemical Practice II	1
Hours chosen from: upper-division		3
<u>American and Texas Government (070)</u>		3
Hours chosen from: upper-division		3
Hours		16
Year 4		
Semester 1		
PHY 353L	Modern Physics Laboratory	3

Hours chosen from: upper-division PHY	3	
<u>Social and Behavioral Sciences (080)</u>	3	
<u>Humanities (040)</u>	3	
Free Elective	3	
Hours	15	
Semester 2		
PHY 352K	Classical Electrodynamics I	3
Hours chosen from: upper-division		3
<u>Additional Social Science (may not also be counted toward Core Curriculum)</u>		3
Hours chosen from: upper-division		3
Hours chosen from: upper-division		3
Hours	15	
Total Hours	120	

Requirements

All requirements are listed below, starting with the most specialized moving to the most general. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy General Education requirements, including Core Curriculum.

Code	Title	Hours
Major		
PHY 301	Mechanics	3
PHY 101L	Laboratory for Physics 301	1
PHY 316	Electricity and Magnetism	3
PHY 116L	Laboratory for Physics 316	1
PHY 315	Wave Motion and Optics	3
PHY 115L	Laboratory for Physics 315	1
PHY 355	Modern Physics and Thermodynamics	3
PHY 336K	Classical Dynamics	3
PHY 352K	Classical Electrodynamics I	3
PHY 353L	Modern Physics Laboratory	3
Hours chosen from: Upper-division physics		6
CH 301	Principles of Chemistry I	3
or CH 301C	Foundations of Chemistry I	
CH 302	Principles of Chemistry II	3
or CH 302C	Foundations of Chemistry II	
CH 204	Introduction to Chemical Practice	2
Hours chosen from: Differential equations		3
M 427K	Advanced Calculus for Applications I	
M 427J	Differential Equations with Linear Algebra	
M 372K	Partial Differential Equations and Applications	
Hours chosen from: mathematics		6
Hours chosen from: Upper-division mathematics		3
Hours chosen from: Additional upper-division physics (may not be counted toward other requirements)		3
Hours chosen from: Additional upper-division biology, chemistry, philosophy, psychology, College of Education, or the School of Engineering (may not be counted toward other requirements)		3
Subtotal		56
Degree (see details below)		18
Free electives: Additional coursework to reach total hours required.		4
Subtotal		22
General Education		
<u>Core Curriculum</u>		42
<u>Foreign Language other than English, Beginning Proficiency</u>		
Subtotal		42

<u>College Requirements - Natural Sciences</u>	
<u>General University Requirements</u>	
Total Hours	120

Additional Requirements and Policies

Students must earn a grade of at least C- and at least a 2.00 grade point average in each required mathematics and science course.

Degree-Bachelor of Arts (BA) - Natural Sciences

The requirements for the Bachelor of Arts under Plan I are designed to give each student flexibility in the selection of courses to meet individual needs.

Code	Title	Hours
	<u>Foreign Language other than English, Intermediate Proficiency</u>	3
	Select one of the following:	
	Certified proficiency on a placement or credit-by-exam test	
	A passing grade in a language course listed in the College of Liberal Arts section	
	Students who wish to meet the requirement with proficiency in a language not listed in the table found in the College of Liberal Arts section above should contact the Texas Language Center.	
	<u>Additional Social Science (may not also be counted toward Core Curriculum)</u>	3
	The course(s) must be in a field of study taught in the College of Liberal Arts and must be in a different field of study from the course used to fulfill the social and behavioral sciences requirement of the core. Courses on the approved list are primarily in anthropology, economics, geography, linguistics, psychology, and sociology, but not every course in these fields is approved. Courses that are approved to count toward any core curriculum area other than social and behavioral sciences may not be counted toward this requirement.	
	Mathematics	
	Three semester hours in mathematics, excluding M 301, M 316K, and M 316L	3
	<u>Additional natural sciences hours (may not also be counted toward core curriculum)</u>	6
	Courses used to fulfill this requirement must be chosen from the fields of study listed below; no more than three hours may be in either the history of science or the philosophy of science. To satisfy the mathematics and science and technology requirements of the core curriculum and the natural science requirement of the Bachelor of Arts, Plan I, a student may count (1) no more than 12 hours in mathematics, computer science, and statistics and data sciences combined; and (2) no more than nine hours in any single field of study.	
	Astronomy	
	Biology	
	Chemistry	
	Geological Sciences	
	Marine Science	
	Nutrition	
	Physical science	
	Physics	
	Mathematics (excluding M 301), computer science, statistics and data sciences	
	Other alternative science courses approved by the dean	

Approved alternative courses in history of science and philosophy of science	
<u>Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)</u>	3
Total Hours	18

Additional Requirements and Policies

Bachelor of Arts, Plan I Policy

Thirty-six hours must be in upper-division courses. At least 60 hours, including 21 hours of upper-division coursework, must be completed in residence at the University; at least 24 of the last 30 hours must be completed in residence at the University. Provided residence rules are met, credit may be earned by examination, by extension, by correspondence (up to 30 percent of the hours required for the degree), or, with the approval of the dean, by work transferred from another institution. Up to 16 semester hours of classroom and/or correspondence coursework may be taken on the pass/fail basis; this coursework may be counted only as electives.

Courses in the major and additional coursework may also be used to fulfill prescribed work requirements unless expressly prohibited. A course in one prescribed work area may not also be used to fulfill the requirements of another prescribed work area.

Elective hours Policy

Hours may include no more than 12 semester hours of bible courses; nine hours of designated coursework in air force science, military science, or naval science; 16 hours completed on the pass/fail basis; 39 hours in any one field of study offered in the College of Liberal Arts or the College of Natural Sciences, unless major requirements state otherwise; and 39 hours in any other single college or school of the University.

Major Requirements

The Bachelor of Arts, Plan I, requires the completion of all requirements for one major.

The number of semester hours required in the major varies with the field selected. Unless the requirements of the major state otherwise, a major consists of at least 24 but no more than 39 semester hours, with at least 15 hours in upper-division courses. Of these 15 hours, six must be completed in residence. At least 18 hours of coursework in the major, including six hours of upper-division coursework, must be completed in residence at the University.

Additional Coursework

Students in most majors must also fulfill the requirements of additional coursework. The requirements of the additional coursework are established by the major department and are given with the major requirements. Additional restrictions may be imposed by the academic department(s) in which the student takes the courses used to fulfill the requirements of the additional coursework; before planning to use a course to fulfill the additional coursework requirement, the student should consult the department that offers the course.