Physics (BSA)

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
Natural Science and Technology, Part II (093)		3
RHE 306	Rhetoric and Writing	3
First-Year Signature Course (090)		3
Social and Behavioral Sciences (080)		3
	Hours	**16**
Semester 2		
M 408D	Sequences, Series, and Multivariable Calculus	4
PHY 301	Mechanics	3
PHY 101L	Laboratory for Physics 301	1
Language, Arts, and Culture		3
American and Texas Government (070)		3
Free Elective		3
	Hours	**17**
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
American and Texas Government (070)		3
Minor/Certificate course		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
Humanities (040)		3
Minor/Certificate course		3
	Hours	**14**
Year 3		
Semester 1		
PHY 355	Modern Physics and Thermodynamics	3
PHY 336K	Classical Dynamics	3
Minor/Certificate course		3
Language, Arts, and Culture		3
U.S. History (060)		3
	Hours	**15**
Semester 2		
PHY 373	Quantum Physics I: Foundations	3
PHY 352K	Classical Electrodynamics I	3
Minor/Certificate course		3
Language, Arts, and Culture		3
U.S. History (060)		3
	Hours	**15**
Year 4		
Semester 1		
PHY 369	Thermodynamics and Statistical Mechanics	3
Minor/Certificate course		3
Language, Arts, and Culture		3
Free Elective		3
Free Elective		3
	Hours	**15**
Semester 2		
Hours chosen from:		3
M 340L	Matrices and Matrix Calculations	
Upper-division PHY course		
Minor/Certificate course		3
Visual and Performing Arts (050)		3
Free Elective		2
Free Elective		3
	Hours	**14**
	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		
Mathematics		
M 408C	Differential and Integral Calculus	4
M 408D	Sequences, Series, and Multivariable Calculus	4
M 427K	Advanced Calculus for Applications I	4
or M 427J	Differential Equations with Linear Algebra	
M 427L	Advanced Calculus for Applications II	4
Primary Science		
PHY 301	Mechanics	3
PHY 101L	Laboratory for Physics 301	1
PHY 315	Wave Motion and Optics	3
PHY 115L	Laboratory for Physics 315	1
PHY 316	Electricity and Magnetism	3
PHY 116L	Laboratory for Physics 316	1
PHY 336K	Classical Dynamics	3
PHY 352K	Classical Electrodynamics I	3
PHY 355	Modern Physics and Thermodynamics	3
PHY 369	Thermodynamics and Statistical Mechanics	3
PHY 373	Quantum Physics I: Foundations	3
Hours chosen from:		3
M 340L	Matrices and Matrix Calculations	
PHY 329	Introduction to Computational Physics	
PHY 333	Modern Optics	
PHY 345	Biophysics	
PHY 353L	Modern Physics Laboratory	
PHY 362K	Quantum Physics II: Atoms and Molecules	
PHY 362L	Quantum Physics III: Particles and Nuclei	
PHY 474	Advanced Laboratory I	
PHY 375S	Introductory Solid-State Physics	
PHY 375R	Introduction to Relativity	
PHY 375P	Introductory Plasma Physics	
Secondary Science		
Hours chosen from: upper-division (It is recommended that students select a course that will also fulfill the Natural Science and Technology Part II core curriculum requirement):		3
Astronomy		
Biology		

Chemistry	
Computer Science	
Geological Sciences	
Subtotal	*49*
Degree (see details below)	**27**
Free electives: Additional coursework to reach total hours required.	2
Subtotal	*29*
General Education	
Core Curriculum	42
Foreign Language other than English, Beginning Proficiency	
Subtotal	*42*
College Requirements - Natural Sciences	
General University Requirements	
Total Hours	**120**

Degree-Bachelor of Science and Arts (BSA)

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

Code	Title	Hours
Language, Arts, and Culture		
Hours selected from at least two of the following four areas:		12
	Fine arts: courses chosen from design, ensemble, fine arts, music, studio art, performance, visual art studies, art history, and theatre and dance	
	Humanities: courses chosen from American studies, ancient history and classical civilization, classical civilization, comparative literature, creative writing, English, humanities, philosophy, religious studies, and rhetoric and writing	
	Social and behavioral sciences: courses chosen from anthropology, economics, geography, government, history, linguistics, psychology, and sociology	
	Foreign language and culture: foreign language courses or culture courses chosen from an approved list available in the college advising centers. Students who elect to pursue a foreign language must complete a beginning level competency. Students who complete intermediate or advanced level foreign language courses rather than courses equivalent to beginning level competency may count only one intermediate or advanced course toward the language, arts, and culture requirement (a maximum of six hours earned through credit by examination may count toward the language arts and culture requirment)	
Additional Requirements		
Completion of one of the following:		15
Transcript-recognized minor or certificate (minor outside the College of Pharmacy, Cockrell School of Engineering, Jackson School of Geosciences, and School of Nursing)		
	Fifteen hours in a single field of study (outside the College of Natural Sciences, College of Pharmacy, Cockrell School of Engineering, Jackson School of Geosciences, and School of Nursing)	
Total Hours		**27**

Additional Requirements and Policies

1. Students may not use a course counting toward one area of prescribed work to fulfill the requirements of another area of prescribed work unless expressly permitted as follows:
   a. Courses counting toward the university core curriculum may also count toward the major requirements, the additional requirement, and electives.
   b. Per university policy, a minimum of nine hours of the transcript-recognized minor may not be also used to satisfy the major.
   c. Per university policy, a minimum of one course taken in a transcript-recognized certificate to satisfy the additional requirement may not also count toward the major.
2. Students who seek a transcript-recognized minor or transcript-recognized certificate must meet the minimum grade requirements and grade point average requirements of the program.
3. Students must earn a University grade point average of at least 2.00 in all courses taken at the University (including credit by examination, correspondence, and extension), a grade of at least C- in each mathematics and science course counted toward the major, and a grade point average of at least 2.00 in the courses fulfilling the major.
4. Students must complete a minimum of 60 hours in residence at the University, including at least 18 hours of the major. The 18 hours of the major in residence must include at least nine hours of advanced coursework.