

PHYSICS - BA

Program Requirements

First Year

		Semester Credit Hours
Fall		
ENGL 104 or ENGL 103	Composition and Rhetoric or Introduction to Rhetoric and Composition	3
MATH 171	Calculus I ¹	4
PHYS 101	Freshman Physics Orientation ¹	1
PHYS 150	Introduction for Programming for Physics ¹	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ²		3

Semester Credit Hours 14

Spring

ASTR 102	Observational Astronomy	1
MATH 172	Calculus II ¹	4
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences ¹	4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) ²		3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) ²		3

Semester Credit Hours 15

Second Year

		Semester Credit Hours
Fall		
MATH 221	Several Variable Calculus ¹	4
MATH 308	Differential Equations ¹	3
PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences ¹	4
PHYS 221	Optics and Thermal Physics ¹	3

Semester Credit Hours 14

Spring

PHYS 225	Electronic Circuits and Applications	3
PHYS 309	Modern Physics ¹	3
PHYS 331	Theoretical Methods for Physicists I ¹	3
General elective ³		7

Semester Credit Hours 16

Third Year

		Semester Credit Hours
Fall		
PHYS 302	Advanced Mechanics I	3
PHYS 304	Advanced Electricity and Magnetism I	3
PHYS 332	Theoretical Methods for Physicists II	3
POLS 206	American National Government	3

Social and behavioral science (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences>) ² 3

Semester Credit Hours 15

Spring

PHYS 327	Experimental Physics I ⁴	2
PHYS 328	Experimental Physics II ⁴	1
PHYS 412	Quantum Mechanics I	3
POLS 207	State and Local Government	3
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication) ⁵		3
General elective ³		3

Semester Credit Hours 15

Fourth Year

Fall

Science or technical elective ⁶		3
General electives ³		13

Semester Credit Hours 16

Spring

Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ²		3
Physics elective ⁷		3
General electives ³		9

Semester Credit Hours 15

Total Semester Credit Hours 120

¹ A physics major must complete the foundation courses (PHYS 101, PHYS 150, ASTR 102/PHYS 206/PHYS 226, PHYS 207/PHYS 227, PHYS 221, PHYS 309, PHYS 331, MATH 171, MATH 172, MATH 221, MATH 308) with a grade of C or better and have a 2.0 cumulative GPA before taking non-foundation upper-level physics courses.

² Any course in this category from the approved University Core Curriculum list of courses.

³ A minor is required and, along with other free electives, should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>), and three hours must be in the area of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>). These may be in addition to other University Core Curriculum courses, or if a course in this category satisfies another area of the Core, it can be used to meet both requirements. Electives may be selected from any 100-499 course not used elsewhere, except ENGL 103; MATH 100-148, MATH 165-166, MATH 365, MATH 366 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>); PHYS 201, PHYS 202.

⁴ PHYS 327 is an approved W course. PHYS 328 is an approved C course.

⁵ Any approved Communication course, except PERF 407.

⁶ Any upper-division course in geo/life/physical sciences, mathematics/statistics, or engineering (except 485/491).

⁷ Select from ASTR 314, PHYS 401, PHYS 414, PHYS 416, PHYS 489, MATH 460, or any graduate offering in PHYS or ASTR.