BA PHYSICS
2022-2026

This document displays only your course requirements at the time of publication of the catalog. You must use your Degree Progress Report to track all graduation requirements.

Note: No Major courses with a lab component may be selected as credit/no credit. [1]

Note: Students intending to double major must consult the Physics department chair, preferably prior to sophomore year.

MAJOR COURSES		
PHYS 141	General Physics I	4
PHYS 142	General Physics II (B1 & B3) [1,2]	4
PHYS 143	General Physics III [1]	4
PHYS 206 or PHYS 202	Electronics and Instrumentation [1] / Physics on the Computer	4
PHYS 211	Modern Physics I	4
PHYS 212	Modern Physics II	4
PHYS 301	Thermal Physics I	4
PHYS 305	Classical Mechanics I (Upper-Division B) [2]	4
PHYS 320	Methods of Theoretical Physics I	4
PHYS 405	Quantum Mechanics I	4
PHYS 408	Electromagnetic Fields and Waves I	4
PHYS 461	Senior Project I	2
MATH 141	Calculus I (B4) [2]	4
MATH 142	Calculus II (GE Electives) [2]	4
MATH 143	Calculus III	4
MATH 206	Linear Algebra I	4
MATH 241	Calculus IV	4
MATH 242	Differential Equations I	4
Approved Electives (22 units)		
Laboratory Electives (excess units go to Tech Elect) Select one from the following: [1,3] ASTR 444 Observational Astronomy PHYS 323 Optics PHYS 340 Quantum Physics Laboratory I PHYS 341 Quantum Physics Laboratory II PHYS 357 Adv Instrumentation in Experimental Phys PHYS 422 Polymer Electronics Laboratory PHYS 423 Advanced Optics PHYS 426 Solid State Physics Laboratory PHYS 428 Nonlinear Dynamical Systems		1
Technical Electives (excess units go to Breadth Elect) Select 14 units from the following: [1,4,5] Any 300-400 level PHYS, ASTR, or GEOL prefix crs [6] or ONE of the following: HIST 350 The Scientific Revolution, c. 1500-1800 PHIL 321 Philosophy of Science PHIL 323 Ethics, Science and Technology PHIL 421 Philosophy of Space, Time and Matter		14
Breadth Electives Select up 7 more upper-division units or PHYS 100, PHYS 220 to reach total of 22 Approved Elective units.		7
Total Major Units		**92**

GENERAL EDUCATION		
Area A	**English Language Communication & Critical**	
A1	Oral Communication	4
A2	Written Communication	4
A3	Critical Thinking	4
Area B	**Scientific Inquiry and Quantitative Reasoning**	
B1	Physical Science (4 units in Major) [2]	0
B2	Life Science	4
B3	One lab taken with either a B1 or B2 course	
B4	Maths/Quant Reasoning (4 units in Major) [2]	0
	Upper-Division B (4 units in Major) [2]	0
Area C	**Arts and Humanities**	
	Select lower-division courses from 3 different prefixes.	
C1	Arts	4
C2	Humanities	4
	Lower-Division C Elective - Select from either C1 or C2	4
	Upper-Division C	4
Area D	**Social Sciences**	
	Select courses from at least 2 different prefixes	
D1	American Institutions (Title 5/Section 40404)	4
D2	Lower-Division D	4
	Upper-Division D	4
Area E	**Lifelong Learning and Self-Development**	
	Lower-Division E	4
Area F	**Ethnic Studies**	
	Lower-Division F	4
GE Electives in Areas C and D		
	Select lower- or upper-division courses from 2 different areas.	
	GE Electives (4 units of Area B in Major) [2]	0
	GE Electives (Area C or D)	4
Total GE Units		**56**
FREE ELECTIVES [7, 8]		**32**
TOTAL DEGREE UNITS		**180**

FOOTNOTES

1 Major courses with lab component may not be taken as CR/NC grading: PHYS 142, 143, 206, 323, 340, 341, 342, 357, 422, 423, 426, 428; ASTR 444.

2 Required in Major or Support; also satisfies General Education (GE) requirement.

3 Units in excess of 1 unit will count towards Technical Elective units.

4 Excess units will count towards Breadth Elective units.

5 Total combined elective credit in PHYS 400, 404; ASTR 400, 404; GEOL 400, 404 limited to 8 units. Max 2 units per quarter.

6 PHYS 321 is recommended.

7 CHEM 124 and CHEM 125 are recommended.

8 **At least 8 units must be upper-division (300-400 level).**