MAJOR IN PHYSICS, PHYSICS CONCENTRATION

Required PH courses above the 100-Level are typically offered only Fall or Spring, not both. A grade of C- or better is required in all courses used to meet requirements of the major, except for unrestricted electives and courses taken to satisfy All-University Core Curriculum (AUCC) categories 1A, 1C, 3B, 3C, and 3D.

Major Completion Map

Distinctive Requirements for Degree Program:

Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)		X	1A	3
MATH 160	Calculus for Physical Scientists I (GT-MA1)		X	1B	4
PH 141	Physics for Scientists and Engineers I (GT-SC1)		X	3A	5
PH 193	Introductory Seminar in Physics				1
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)				1C	3
	Total Credits				**16**

Semester 2		Critical	Recommended	AUCC	Credits
Select one group from the following:					3-5
Group A:					
CS 150B	Culture and Coding: Python (GT-AH3)			3B	
Electives					
Group B:					
CS 152	Python for STEM				
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)				3B	
MATH 161	Calculus for Physical Scientists II (GT-MA1)		X	1B	4
PH 142	Physics for Scientists and Engineers II (GT-SC1)		X	3A	5
CS 150B, MATH 160, and PH 141 must be completed by the end of Semester 2.		X			
	Total Credits				**14**

Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
MATH 261	Calculus for Physical Scientists III		X		4
PH 210	Introduction to Computing in Physics				3
PH 245	Introduction to Electronics				3
PH 293	Selected Topics in Physics				1
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)				3D	3
MATH 161 and PH 142 must be completed by the end of Semester 3.		X			
	Total Credits				**14**

Semester 4		Critical	Recommended	AUCC	Credits
Select one course from the following:					4
MATH 340	Intro to Ordinary Differential Equations		X		
MATH 345	Differential Equations				
PH 314	Introduction to Modern Physics		X		4
PH 315	Modern Physics Laboratory		X		2
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)				3B	3
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)				3C	3
MATH 261 must be completed by the end of Semester 4.		X			
	Total Credits				**16**

Junior

Semester 5		Critical	Recommended	AUCC	Credits
MATH 369	Linear Algebra I				3
PH 341	Mechanics		X		4
PH 353	Optics and Waves		X		4
Mathematics and Statistics List (Select a minimum of 3 credits from List on Concentration Requirements Tab)					3
MATH 340 and PH 245 must be completed by the end of Semester 5.		X			
	Total Credits				**14**

Semester 6		Critical	Recommended	AUCC	Credits
PH 351	Electricity and Magnetism		X		4
PH 361	Physical Thermodynamics	X			3
Select one course from the following:					3
CHEM 301	Advanced Scientific Writing–Chemistry (GT-CO3)			2	
CO 300	Writing Arguments (GT-CO3)			2	
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)			2	
LB 300	Specialized Professional Writing			2	
Elective					6
PH 293, PH 314, and PH 315 must be completed by the end of Semester 6.		X			
	Total Credits				**16**

Senior

Semester 7		Critical	Recommended	AUCC	Credits
PH 451	Introductory Quantum Mechanics I	X		4A,4B	3
PH 462	Statistical Physics	X			3
Technical Course List (See Technical Course List on Concentration Requirements Tab)					3
Electives					6
PH 341 and PH 353 must be completed by the end of Semester 7.		X			
	Total Credits				**15**

Semester 8		Critical	Recommended	AUCC	Credits
PH 425	Advanced Physics Laboratory	X		4C	2
PH 452	Introductory Quantum Mechanics II	X			3
PH 492	Seminar	X		4C	1
Technical Course List (See Technical Course List on Concentration Requirements Tab)		X			3
Electives		X			6
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
	Total Credits				**15**
	Program Total Credits:				**120**