MAJOR IN PHYSICS, APPLIED PHYSICS CONCENTRATION

Major Completion Map

Distinctive Requirements for Degree Program:

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. Courses in a Selected Field list have additional prerequisites. Any student considering the Applied Physics concentration should meet with an advisor as soon as possible.

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	X			1
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)				1C	3
	Total Credits				**16**

Semester 2		Critical	Recommended	AUCC	Credits
Select one group from the following:		X			3-5
Group A:					
CS 150B	Culture and Coding: Python (GT-AH3)			3B	
Electives					
Group B:					
CS 152	Python for STEM				
Arts and Humanities (http://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
CO 150, 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	X			3
PH 245	Introduction to Electronics	X			3
PH 293	Selected Topics in Physics	X			1
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			X	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 (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)				3B	3
Social and Behavioral Sciences (http://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	X			3
PH 341	Mechanics	X			4
PH 353	Optics and Waves	X			4
Technical Elective (see list on Concentration Requirements tab)			X		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	
JTC 300	Strategic Writing and Communication (GT-CO3)			2	
LB 300	Specialized Professional Writing			2	
Electives					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
Selected Field (See Lists on Concentration Requirements Tab)					6
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 492	Seminar	X		4C	1
Selected Field (See Lists on Concentration Requirements Tab)		X			6
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**