PHYSICS B.A.

General Degree Requirements

To earn a baccalaureate degree, all students must complete successfully, in addition to any other requirements, the University of Montana General Education Requirements. Please refer to the General Education Requirements page (https://catalog.umt.edu/academics/general-education-requirements/) for more information.

Additional requirements for graduation can be found on the Degree/Certificate Requirements for Graduation page (https://catalog.umt.edu/academics/graduation-requirements/).

Unless otherwise noted in individual program requirements, a minimum grade point average of 2.00 in all work attempted at the University of Montana-Missoula is required for graduation. Please see the Academic Policies and Procedures page (https://catalog.umt.edu/academics/policies-procedures/) for information on how your GPA is calculated.

Courses taken to satisfy the requirements of a major, minor, or certificate program must be completed with a grade of C- or better unless a higher grade is noted in the program requirements.

BACHELOR OF ARTS - PHYSICS

Course Requirements

Code	Title	Hours
Lower-Division Physics		
Complete one of the following Physics sequences:		10
Algebra- and Trigonometry-based Physics:		
PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	
PHSX 207N & PHSX 208N	College Physics II and College Physics II Laboratory	
Calculus-based Physics (strongly recommended):		
PHSX 215N & PHSX 216N	Fundamentals of Physics with Calculus I and Physics Laboratory I with Calculus	
PHSX 217N & PHSX 218N	Fundamentals of Physics with Calculus II and Physics Laboratory II with Calculus	
Upper-Division Physics		
Complete all of the following courses:		
PHSX 301	Intro Theoretical Physics	3
PHSX 311	Oscillations and Waves	2
PHSX 320	Classical Mechanics	3
PHSX 323	Intermediate Physics Lab	3
PHSX 343	Modern Physics	3
PHSX 423	Electricity & Magnetism I	3
PHSX 444	Advanced Physics Lab	3
PHSX 461	Quantum Mechanics I	3
PHSX 499	Senior Capstone Seminar	1
Complete two of the following courses:		6
PHSX 425	Electricity & Magnetism II	
PHSX 446	Thermodynamics & Statistical Mechanics	
PHSX 462	Quantum Mechanics II	
Physics Electives [1]		
Complete two of the following courses:		6
PHSX 141N	Einstein's Relativity	
or ASTR 142	The Evolving Universe	
PHSX 327	Optics	
PHSX 330	Communicating Physics	
PHSX 333	Computational Physics	
PHSX 425	Electricity & Magnetism II	
or PHSX 446	Thermodynamics & Statistical Mechanics	
or PHSX 462	Quantum Mechanics II	
Math Requirements [2]		
Complete all of the following courses:		
M 171	Calculus I	4
M 172	Calculus II	4
M 221	Introduction to Linear Algebra	4
M 273	Multivariable Calculus	4
Computer Science Requirements		
Complete one of the following courses:		3
CSCI 150	Introduction to Computer Science	
CSCI 151	Interdisciplinary Computer Science I	
PHSX 333	Computational Physics	
Advanced Writing Requirement [3]		
Complete the following course:		
PHSX 330	Communicating Physics	3
Total Hours		**68**

1. Other PHSX courses may be substituted with adviser approval.
2. M 412 and M 418 are also recommended.
3. Students may substitute another advanced writing course with the approval of the department chair.

Four Year Plan

Course	Title	Hours
Freshman		
Autumn		
PHSX 215N & PHSX 216N	Fundamentals of Physics with Calculus I and Physics Laboratory I with Calculus	5
M 171	Calculus I	4
PHSX 101	The Physics Experience	1
WRIT 101	College Writing I	4
CSCI 150	Introduction to Computer Science	3
	Hours	**17**
Spring		
PHSX 217N & PHSX 218N	Fundamentals of Physics with Calculus II and Physics Laboratory II with Calculus	5
M 172	Calculus II	4
CSCI 151	Interdisciplinary Computer Science I	3
General Education Requirement		3
	Hours	**15**
Sophomore		
Autumn		
PHSX 311	Oscillations and Waves	2
PHSX 343	Modern Physics	3
M 273	Multivariable Calculus	4
Elective		6
	Hours	**15**
Spring		
PHSX 301	Intro to Theoretical Physics	3
PHSX 320	Classical Mechanics	3

M 221	Introduction to Linear Algebra	4
Elective		5
	Hours	**15**
Junior		
Autumn		
PHSX 461	Quantum Mechanics I	3
M 274	Introduction to Differential Equations	4
PHSX 389	Research Initiation	1
General Education Requirement		6
PHSX or General Elective		3
	Hours	**17**
Spring		
PHSX 462 or PHSX 446	Quantum Mechanics II or Thermodynamics & Statistical Mechanics	3
PHSX 330	Communicating Physics	3
PHSX or General Elective		3
General Education Requirement		6
	Hours	**15**
Senior		
Autumn		
PHSX 323	Intermediate Physics Lab	3
PHSX 423	Electricity & Magnetism I	3
PHSX 499	Senior Capstone Seminar	1
General Education Requirement		3
PHSX Elective		3
	Hours	**13**
Spring		
PHSX 425 or PHSX 446	Electricity & Magnetism II or Thermodynamics & Statistical Mechanics	3
PHSX 444	Advanced Physics Lab	3
PHSX Elective		3
General Elective		6
	Hours	**15**
	Total Hours	**122**

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