

PHYSICS B.A.

Bachelor of Arts - Physics

General Education Requirements

Information regarding these requirements can be found in the General Education Section (<http://catalog.umt.edu/academics/general-education-requirements/>) of the catalog.

Summary

Code	Title	Hours
	Lower-Division Physics	10
	Upper-Division Physics	30
	Physics Electives	6
	Math Requirements	16
	Computer Science Requirements	3
	Advanced College Writing Requirement	3
Total Hours		68

Degree Specific Credits: 68

Required Cumulative GPA: 2.0

Lower-Division Physics

Code	Title	Hours
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	
Total Hours		10

Minimum Required Grade: C-

Upper-Division Physics

Code	Title	Hours
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

Total Hours 30

Minimum Required Grade: C-

Physics Electives

Note: Other PHSX courses may be substituted with adviser approval.

Code	Title	Hours
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 (2 of these 3 courses must be taken in the physics core, the remaining course can be used as an elective)	
	or PHSX 446 Thermodynamics & Statistical Mechanics	
	or PHSX 462 Quantum Mechanics II	
Total Hours		6

Minimum Required Grade: C-

Math Requirements

Note: M 412 and M 418 are recommended as well

Code	Title	Hours
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
Total Hours		16

Minimum Required Grade: C-

Computer Science Requirements

Code	Title	Hours
Complete one of the following courses:		3
CSCI 150	Introduction to Computer Science	
CSCI 151	Interdisciplinary Computer Science I	
PHSX 333	Computational Physics (strongly recommended)	
Total Hours		3

Minimum Required Grade: C-

Advanced College Writing Requirement

Note: May substitute another advanced writing course as approved by the department chair.

Code	Title	Hours
Complete the following course:		
PHSX 330	Communicating Physics	3
Total Hours		3

Minimum Required Grade: C-