

# PHYSICS (AS)

Department website (<https://www.uwp.edu/learn/programs/physicsassociate.cfm>)

College: College of Natural & Health Sciences

The associate of science degree with a major in physics is designed for students who are interested in acquiring a solid understanding of physics to be able to join the technical workforce in the technical industry. This program specifically embodies the two years of courses needed in preparation for students transferring to UW-Milwaukee's engineering program. The program consists of 60-68 credits that includes university skills requirements, general education requirements, an ethnic diversity requirement and the program-specific requirements.

## Requirements for the A.S. in Physics

To complete this degree program students must complete all required courses and earn a minimum cumulative degree grade point average of 2.00.

Code	Title	Credits
<b>Basic Skills Requirements</b>		
<i>English/Writing Skills Course</i>		
ENGL 101	Composition and Reading <sup>1</sup>	3
<i>Computational and Quantitative Skills Courses</i>		
MATH 111	College Algebra I	5
Basic Skills Requirements Subtotal		8
<b>General Education Requirements</b>		
<i>Humanities and the Arts Courses</i>		
Select four courses from three different departments <sup>3,4</sup>		12
<i>Social and Behavioral Sciences Courses</i>		
Select four courses from three different departments <sup>3</sup>		12
<i>Natural Sciences Courses</i>		
Select one course not from math (MATH) or physics (PHYS) <sup>3,5</sup>		2
General Education Requirements Subtotal		26
<b>Ethnic Diversity Course</b>		
Select one course that carries "DV" credit <sup>3,6</sup>		0-3
Ethnic Diversity Course Subtotal		0-3
<b>Math and Physics Requirements</b>		
<i>Required Courses</i>		
MATH 221	Calculus and Analytic Geometry I <sup>3</sup>	5
MATH 222	Calculus and Analytic Geometry II <sup>3</sup>	5
PHYS 201	General Physics I <sup>3</sup>	5
PHYS 202	General Physics II <sup>3</sup>	5
<i>Electives Courses / Required Engineering Major Specific Courses</i>		
Select ten to eighteen credits of the following: <sup>7</sup>		10-18
PENG 211	Statics	
PENG 212	Dynamics	
PENG 214	Electrical Circuits I	
PENG 215	Materials Science and Engineering	
PENG 216	Engineering Drawing and Computer Aided Design	
PHYS 205	Modern Physics	
PHYS 241	Scientific Programming	
PHYS 301	Classical Mechanics	

PHYS 302	Electricity and Magnetism	
PHYS 403	Thermodynamics	
Math and Physics Requirements Subtotal		30-38
<b>Total Credits</b>		<b>64-75</b>

- <sup>1</sup> This course fulfills the university writing skills requirements.
- <sup>2</sup> This course (or a higher-level math course if determined through placement or transfer) fulfills the university computational skills requirements.
- <sup>3</sup> Check the course schedule and work with your advisor to find courses that fulfill your general education and/or ethnic diversity requirements.
- <sup>4</sup> COMM 105 Public Speaking for the 21st Century is highly recommended.
- <sup>5</sup> Required courses fulfill part of this requirement.
- <sup>6</sup> A course that also is a general education course may be used to satisfy this requirement.
- <sup>7</sup> Students seeking the associate of science degree with a major in physics must complete a minimum of 10 credits chosen from the list below. Selection of courses to fulfill these credits should be in consultation with an academic or a faculty advisor. Students intending to earn the associate of science degree with a major in physics and continue on to a UWM engineering program must complete 15 or more credits depending on their chosen engineering major. Selection of courses to fulfill these credits should be in consultation with an academic or a faculty advisor.

How credits count:

Courses can count for multiple requirements such as a program requirement and a general education requirement but, the credits only count once. Therefore, depending on how many courses are chosen that fulfill both program and general education requirements, students may be required to take additional elective courses (from those not already taken in areas above) to reach the required minimum of 60 credits for an associate degree.

Depth, two-course sequence requirement:

The University of Wisconsin system has a requirement that each associate degree program must contain at least one two-course sequence in which the first course provides the foundation for the second course. There are multiples of sequential courses in this program including but not limited to: MATH 221 Calculus and Analytic Geometry I & MATH 222 Calculus and Analytic Geometry II; PHYS 201 General Physics I & PHYS 202 General Physics II or PHYS 301 Classical Mechanics; PHYS 202 General Physics II & PHYS 205 Modern Physics or PHYS 302 Electricity and Magnetism.