PHYSICS MINOR

MINOR DESCRIPTION

Physics is the foundation of a liberal arts education for innovations in science and engineering and prepares students for quantitative problem solving in any field. The Physics minor provides exposure to the primary areas of Physics with minimal electives. Through the minor, students develop a core understanding of the quantitative and predictive description of natural phenomena using the rigorous language of mathematics.

Successful Physics students exhibit a strong curiosity about the natural world and a willingness to learn through empirical investigation. Students are encouraged to cultivate an analytical mindset, strong quantitative aptitude, and the ability to understand complex mathematical models. The Physics minor will help students develop problem-solving skills and knowledge of complex physics principles that are valuable in diverse applications, including engineering, data analytics and computational science, education, finance and banking, medical physics, geophysics, and environmental science.

It is important to note that the Physics Minor is not sufficient preparation for graduate study in physics.

ADMISSION TO THE MINOR

Students are welcome to declare a physics minor in the spring of their sophomore year or later, and must have completed, or be taking, PHYS116, General Physics.

MINOR REQUIREMENTS

To complete the Physics Minor, students must take 6 Physics credits including 5 lecture courses, 1 introductory laboratory class (0.5 credit), and 1 advanced laboratory class (0.5 credit). Three math courses are also required; these may be satisfied by meeting the placement requirements of the Mathematics Department.

Required Lecture Courses (5 credits)

Code	Title	Hours
PHYS113	General Physics I	1
PHYS116	General Physics II	1
PHYS213	Waves and Oscillations	1
PHYS214	Quantum Mechanics I	1

PHYS3XX: Any Physics lecture course at the 300-level

Note: Courses must be taken as graded (A-F) to fulfill the minor, unless the course is offered only Cr/U.

If a student places out of PHYS113, they may substitute one credit from any 200-level course not listed among the required courses. Currently, these include PHYS170 (Mechanical Design & Engineering), PHYS206 (Electrical Design & Engineering),PHYS207 (Biophysics), PHYS210 (How things fail), PHYS217 (Nonlinear Dynamics) , or the combination of 0.5 credit courses PHYS215 (Special Relativity) and PHYS219 (Contemporary Physics).

Required Lab Courses (1 credit)

Students must take one introductory lab class, and one advanced lab class, 0.5 credit each.

Code	Title	Hours
PHYS123	General Physics Laboratory I	0.5
or PHYS124	General Physics Laboratory II	
PHYS342	Experimental Optics	.5
or PHYS345	Electronics Lab	
or PHYS395	Structural Biology Laboratory	
or PHYS340	Computational Physics	

Math Prerequisites (3 credits, if not placed out)

Code	Title	Hours
MATH121 & MATH122	Calculus I and Calculus II *	1
MATH222	Multivariable Calculus	1
or MATH221	Vectors and Matrices	
or MATH223	Linear Algebra	

ADDITIONAL INFORMATION

The Cady Lounge provides a community space where students can study, discuss physics, and connect with peers. Additionally, there is a study area in the science library (the “STEM zone”) where students in introductory courses can get help and collaborate.

Colloquia: This seminar series features distinguished scientists from other institutions who present lectures on their research findings. Seminars are usually held on Thursdays at noon in Exley 058 and are open to all members of the university community. Students may enroll in the colloquium course for credit.

Society of Physics Students (SPS): SPS is a national association of undergraduates interested in sharing their physics experiences. Wesleyan’s SPS chapter meets to support each other in the scientific community, plan department activities, and pursue community outreach. The chapter mentor is Professor George Paily (gpaily@wesleyan.edu).