Minor in Physics

Are you considering continuing your studies in Physics, but are not quite sure if you want to major in this field? Would you like to take a few more Physics classes but you worry about investing too much time on them without getting a degree? Are you a declared major in a college other than Arts and Sciences, but would like to become more knowledgeable in Physics for future options? The Minor in Physics may be a way of pursuing your interest by taking additional courses which are valid for the major. If along the way you change your interests, or only wish to go “so far”, you will have achieved a benchmark which may be useful for your future, and receive recognition for your effort. You do not need to be a physics major to get on our email distribution lists about department events. Please see here for more information.

UW Requirement for Minors

(see full UW Rules & Regulations for Minors page)

1. There are no admission requirements.
2. Students must have earned at least 90 credits when declaring a minor.
3. At least 15 credits applied towards the minor must have been completed at UW.
4. There is no minimum or maximum requirement of credits for a minor. Currently most minors require 25-35 credits, and in some cases background requirements increase this total (e.g. Mathematics and Physics requirements for Chemistry and Atmospheric Sciences Minors).
5. All physics courses leading to the minor, including those for the chosen option (see below), are required to have a grade of 2.0 or higher.
6. The minor cannot be in same field as the major. A maximum of three minors is permitted. Minors are not allowed for “5th year” (post-baccalaureate) students.
7. It is possible to Major in one College and to Minor in another, however to Major in two Colleges requires that the student satisfy the general education requirements of both Colleges. While the student needs to complete the general education requirements of the College in which the Major is taken, it is not necessary to complete the general education requirements of the College in which the Minor is taken.
8. The Minor program does not meet the requirements for Teacher Certification. Students interested in Teaching Certification need to pick up information in 205 Miller.

Physics Department Minor Program

There are three possible tracks towards a Physics Minor. They consist of a basic requirement common to the three tracks, and three options at the 200, 300, and/or 400 level, as follows:

Basic Requirement

All students should take the 21 Physics credits (and required 15 Mathematics credits) below. Engineering and Earth & Space Sciences majors, as well as many STEM majors, will have already taken the first nine of the eleven courses listed. Physics 225 has a math prerequisite of any of: both Math 307 and Math 308, both AMath 351 and 352, Phys 227 (which has a co-requisite of any 300-level math class), Math 136 (5 cr), or permission of instructor.
Phys 121 Mechanics (5 cr)  
Phys 122 Electr. and Mag. (5 cr)  
Math 125 Calc. Analyt. Geom. II (5 cr)  
Phys 123 Waves (5 cr)  
Math 126 Calc. Analyt. Geom. III (5 cr)  
Phys 224 Thermodynamics (3 cr)  
Phys 225 Modern Physics (3 cr)  

Note: Math 134, 135, 136, Accelerated (Honors) Calculus, may be substituted for Math 124, 125, 126.

Option 1: Physics Education Path (total credits: 51)  
Phys 407 Phys. by Inquiry II (5 cr)  
Phys 408 Phys. by Inquiry II (5 cr)  
Phys 409 Phys. by Inquiry II (5 cr)  

Option 2: Experimental Physics Path (total credits: 45)  
No additional prerequisites are required for Physics 231, Physics 334-335, and Physics 434. (Physics 434 requires Physics 335 or the permission of the instructor.)  
Phys 334 Electronics Lab. I (3 cr)  
Phys 231 Intro. Experimental Phys. (3 cr)  

And one of the following six:  
Phys 331 Optics Lab. (3 cr)  
Phys 335 Electronics Lab. II (3 cr)  
Phys 431 Modern (condensed matter) (3 cr)  
Phys 432 Modern (atomic, molecular) (3 cr)  
Phys 433 Modern (nuclear, particle) (3 cr)  
Phys 434 Computer interfacing (3 cr)  

Option 3: Mathematical Physics path (total credits: 51)  
Physics 227 requires at least one 300-level math course as a co-requisite:  
Phys 227 Math. Physics I (4 cr)  
Phys 228 Math. Physics II (4 cr)  
One 300-level Math Course (3 cr)  

Plus at least one of the two Physics classes below:  
Phys 321 Intermediate Electricity and Magnetism I (4 cr)  
Phys 324 Quantum Mechanics II (4 cr)