

HELIOPHYSICS AND SPACE WEATHER MINOR

Heliophysics and Space Weather challenges students to consider the principles and problems associated with the solar system through the lenses of multiple disciplines. As the study of the sun and its effects on the Earth requires a broad understanding of physics and meteorology, the minor program at Millersville University explores this interdisciplinary field through both physics and earth science.

Regulations Governing Minor Course Work

1. There shall be a minimum of 18.0 credit hours with a minimum Millersville QPA of 2.0.
2. Only one course which counts toward your major may be counted toward your minor.
3. Courses that count toward a minor are also eligible to be used to satisfy the current University-wide General Education requirements subject to normal distribution requirements.
4. At least two courses should be at the upper-division level (300-400). Exceptions may be requested upon evidence of program depth.
5. No course needed for the minor may be taken Pass-Fail.
6. One-half or more of the work required for the minor must be completed at Millersville University.
7. No student may minor in his or her major.

Minor in Heliophysics and Space Weather

Code	Title	Hours
A C or better in PHYS 231 and PHYS 232 is required to be admitted to this minor. MATH 161, 211, 311 and 365 are prerequisite courses to the PHYS courses in this minor, please be sure you are completing these MATH courses prior to the respective PHYS requirements in the minor.		
PHYS 233	Wave-Particle Theory	3
Atmospheric Thermodynamics or Macroscopic Physics - Choose 1 of the following:		
ESCI 341	Atmospheric Thermodynamics	
PHYS 334	Macroscopic Physics	
PHYS 321	Electromagnetic Fields 1	3
PHYS 322	Electromagnetic Fields 2	3
PHYS 335	Quantum Systems	3
ESCI 440	Space Weather and Environment	3
Statistical Mechanics		0
PHYS 435 is a recommended course, but is not required for completion of the minor.		
Total Hours		18