

Physics, M.S.

Master of Science

- **Credit Hours:** Students are required to complete a minimum number of 30 graduate-level credit hours in Physics or Astronomy.
- **Grade Point Average:** Students must earn a minimum cumulative GPA of 2.75 and a minimum GPA of 2.75 in courses applied to the degree.
- **Benchmarks:** For details, go to the Physics Degree Progress tab (<http://catalog.wvu.edu/graduate/eberlycollegeofartsandsocieties/physics/#degreeprogress>).

Major Requirements

Code	Title	Hours
CORE COURSES		19
PHYS 611	Introduction to Mathematical Physics	
PHYS 631	Advanced Classical Mechanics 1	
PHYS 633	Electromagnetism 1	
PHYS 651	Quantum Mechanics 1	
PHYS 761	Statistical Mechanics	
PHYS 796	Graduate Seminar	
1 course in PHYS or ASTR at the 600 or 700 level *		
COMPLETION OPTION:		12
Select one completion option		
Non-Thesis Option:		
Select courses in PHYS or ASTR at the 600 level or above or courses from the Additional Coursework list **		
Additional Coursework:		
CS 676	Machine Learning	
EE 528	Biomedical Microdevices	
EE 564	Digital Signal Processing for Radio Astronomy	
EE 650	Optoelectronics	
EDP 613	Statistical Methods 1	
EDP 614	Statistical Methods 2	
EDP 619	Survey Research Methods	
EDP 711	Multivariate Methods 1	
EDP 712 Multivariate Methods 2		
Thesis Option:		
PHYS 797	Research	
Total Hours		31

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At least 1 course in PHYS or ASTR must be taken at the 600 or 700 level. Courses excluded: ASTR 697, ASTR 796 Graduate Seminar, ASTR 797, PHYS 697, PHYS 796 Graduate Seminar, and PHYS 797

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Graduate courses from other departments may be substituted with approvals from the graduate studies committee. Courses excluded: ASTR 697, ASTR 796 Graduate Seminar, ASTR 797, PHYS 697, PHYS 796 Graduate Seminar, and PHYS 797

Major Learning Outcomes

PHYSICS AND ASTRONOMY

The central missions of the Graduate Program in Physics are to train the next generation of Physicists and Astronomers for productive careers in the global economy, to teach them how to apply methods and physics principles to understand and explain the world around us and to expand the scientific boundaries of physics and astronomy.

Students earning a M.S. in Physics will be able to:

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- Explain physics and astronomy principles as they pertain to their specific field of research.
- Demonstrate the ability to understand and critically evaluate the existing literature published within their field.
- Understand the ethical impact of personal and professional behavior.