

PHYSICS, M.S.

Program Description

The Department of Mathematics and Physics at Marshall offers a Master of Science with major in physics, within the Physics and Applied Sciences master's degree program. Students with an undergraduate degree in physics or related fields are encouraged to apply to this major to advance in their knowledge of physics, and to pursue their career goals in industry, government or teaching. The Marshall physics master's major has been designed to meet the needs of students who are either interested in obtaining an M.S. in Physics as their terminal degree, or want to have further graduate study in physics, astronomy or other fields. A master's serves as a bridge to a Ph.D. program. Moreover, graduates with an M.S. in Physics usually are hired into positions which require a high level of problem-solving or technical skills, in the federal or private sector.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission (<http://www.marshall.edu/graduate/admissions/how-to-apply-for-admission/> (<http://www.marshall.edu/graduate/admissions/how-to-apply-for-admission/>)).

In addition:

- The applicant must have an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale in their major;
- Applicants with a GPA between 2.5 and 3.0 in their major may be provisionally admitted to the program.

Program Requirements

General Requirement: Students need to complete a minimum of 32 credits with thesis (36 without thesis) with a GPA of 3.0 or better.

Plan of Study

Code	Title	Credit Hours
Required Courses		
PHY 600	Electricity and Magnetism I	4
PHY 608	Statistical Mechanics	4
PHY 630	Classical Mechanics	4
PHY 642	Adv Quantum Mechanics	4
PHY 645	Methods of Math. Physics	4
Elective Courses		
Select 6 credit hours of elective courses, among which one Advanced Lab is required		6
Thesis/Non-Thesis Options		
Select one of the following:		6-10
Thesis (6 CH)		
Elective Courses (10 CH)		
Total Credit Hours		32-36

Students can choose between the thesis option and non-thesis option to complete the requirements for the M.S. program.

Thesis Option: Research opportunities in the Department of Mathematics and Physics are broad. Faculty members in the department are doing their research in theoretical and experimental condensed matter physics, nanoscience, solar cells, laser physics, optics, gravitational physics and astrophysics. Students can choose to work with one of the faculty members on a research direction the faculty and the students choose. A thesis must be submitted to a committee of 3 faculty members and presented after that in an oral exam.

Non-thesis Option: Students who already complete all required courses and labs and do not want to do a thesis can fulfill the requirement by taking elective courses from the graduate level courses offered by the Physics Department.