

BS in Physics with Emphasis in Astronomy

Degree Program Description

Physics is the science that studies the structure and properties of matter and transformations of energy. With math as the language and experimental verification as a guide, physical study has established the fundamental laws of nature that are the foundation of all natural science and technology. The study of physics includes learning the general principles and the phenomena that have been discovered and developing the skills that enable such knowledge to be advanced through research. An emphasis area in astronomy is excellent preparation also for science teachers, laboratory technicians, computer programmers, and science journalists. It can also serve as the basis for graduate degrees in other fields, such as law or medical school. People with a degree (or background) in Physics with and emphasis in astronomy find jobs in planetariums, science museums, national observatories, national laboratories, federal agencies, universities, business or private industry.

Major Program Requirements

Students interested in astronomy may choose to pursue a BS in Physics with an Emphasis in Astronomy (the emphasis will show up on the transcript). For this option, students must take the required physics courses (<http://catalog.missouri.edu/collegeofartsandscience/physics/bs-physics/>) for the regular BS degree, and five additional astronomy/physics elective courses. Four of the astronomy/physics electives must be chosen from the list below:

ASTRON 3010	Introduction to Modern Astrophysics	3
ASTRON 4020	Astrophysical Techniques	3
PHYSICS 4110	Light and Modern Optics	4
ASTRON 4180	Solar System Science	3
ASTRON 4250	Stellar Astrophysics	3
ASTRON 4350	Galactic Astronomy	3
ASTRON 4360	Extragalactic Astronomy	3
ASTRON 4450	Introduction to Cosmology	3
ASTRON 4460	Interstellar Medium	3
ASTRON 4550	Cosmochemistry	3
ASTRON 4950	Undergraduate Research in Astronomy	1-3
ASTRON 4960	Senior Thesis in Astronomy	3

Only courses with a grade of C- or above will be counted toward the emphasis area. In addition, students must complete all College of Arts and Science and University graduation requirements (<http://catalog.missouri.edu/academicdegree/requirements/universityrequirements/>), including University general education (<http://catalog.missouri.edu/academicdegree/requirements/generaleducationrequirements/>).

Semester Plan

Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

First Year			
Fall	CR	Spring	CR
PHYSICS 2010		1 PHYSICS 2750 ¹	5
MATH 1500 ¹		5 MATH 1700 ¹	5
CHEM 1320, CMP_SC 1050, or INFOTC 1040 ¹		3-4 General Education*	3
ENGLISH 1000*		3	
			12-13
13			
Second Year			
Fall	CR	Spring	CR
PHYSICS 2760 ¹		5 PHYSICS 3150W	3
MATH 2300 ¹		3 PHYSICS 4100	3
General Education*		3 MATH 4100	3
Second Language/Alternative*		4-6 Second Language/Alternative General Education*	4-6
			15-17
			16-18
Third Year			
Fall	CR	Spring	CR
PHYSICS 4140		3 PHYSICS 4120 ¹	3
PHYSICS 4060 ¹		4 Physics Elective ¹	6
Math Elective ¹		3 Math Elective ¹	3
Second Language/Alternative*		3-4 General Education*	3
General Education		3	
			16-17
			15
Fourth Year			
Fall	CR	Spring	CR
PHYSICS 4800 ¹		3 PHYSICS Electives/Research ¹	6
PHYSICS Elective/Research ¹		6 Elective Courses	9-10
General Education*		3	
Elective courses		3	
			15
			15-16

Total Credits: 117-124

¹ Course meets degree program requirements

* Course meets University general education and/or campus graduation requirements