

## Emphasis - Astrophysics

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### **B.S. in Physics** Description

The B.S. degree in physics is recommended for students wishing to go to graduate school in physics. There are optional emphases in astrophysics and biophysics. The degree prepares a student for teaching physics, for graduate or professional schools, such as law school or education school, and for jobs in technical fields. Students interested in teaching high school physics may need a secondary education certification along with the degree.

**Minimum Total Credit Hours: 120**

### General Education Requirements

See the 'General Education/Core Curriculum' for the School of Liberal Arts.

### Course Requirements

A B.S. major in physics must have a working knowledge of mathematics, including differential equations. B.S. physics majors must take Math 261, 262, 263, 264, 319, and 353. All six required math courses should be completed by the end of the junior year. At least 45 hours of physics and astronomy courses are required for the B.S. degree, including Phys 211, 212, 221, 222, 303, 308, 309, 310, 317, 319, 401, 402, 451; at least 2 hours of Phys 463 and/or 464; and Phys 417 as an additional upper-division physics laboratory-based course in addition to Phys 319. Students may satisfy the Phys 211-212 requirements by demonstrating a high level of proficiency on an exam, but then will need to complete the 45 hours of physics and astronomy by taking additional higher-level Phys and Astr courses. Up to 6 hours of astronomy courses at the 300 level or higher can count toward the degree.

### **Emphasis - Astrophysics** Course Requirements

A B.S. major in physics must have a working knowledge of mathematics, including differential equations. B.S. physics majors must take Math 261, 262, 263, 264, 319, and 353. All six required math courses should be completed by the end of the junior year. At least 48 hours of physics and astronomy courses are required for the B.S. degree with emphasis in astrophysics, including Phys 211, 212, 221, 222, 303, 308, 309, 310, 317, 319, 401, 402, 451, Astr 325 and 436, at least 2 hours of Phys 463 and/or 464; and Phys 417 as an additional upper-division physics laboratory-based course in addition to Phys 319. (Typically, either Phys 321 or Phys 417 is taken as the other lab class.) Students may satisfy the Phys 211-212 requirements by demonstrating a high level of proficiency on an exam, but then will need to complete the 48 hours of physics and astronomy by taking additional higher-level Phys and Astr courses. Students in the B.S. program with emphasis in astrophysics may not minor in astronomy.

### Degree Requirements

The academic regulations for this degree program, as entered in the University of Mississippi Catalog, are in effect for the current or selected academic year and semester. The University of Mississippi reserves the right to 1) change or withdraw courses; 2) change rules for registration, instruction, and graduation; and 3) change other regulations affecting the student body at any time.

### **B.S. in Physics**

#### General Education

REQUIREMENT	HOURS	DESCRIPTION
First Year Writing I	3	Complete <a href="#">Hon 101</a> , <a href="#">Writ 100</a> or <a href="#">Writ 101</a> with a passing grade.
First Year Writing II	3	Complete one of the following courses with a passing grade: <a href="#">Liba 102</a> , <a href="#">Writ 102</a> or <a href="#">Hon 102</a> .
3 hrs fine arts	3	Complete 3 hours in the area of fine or performing arts. Choose from art history, music, dance, and theatre arts. Studio and workshop courses cannot be used to satisfy this requirement. Acceptable freshman or sophomore-level courses are: <a href="#">AH 101</a> , <a href="#">AH 102</a> , <a href="#">AH 201</a> , <a href="#">AH 202</a> ; Music 101, Music 102, Music 103, Music 104, Music 105; Dance 200; and Theatre 201.
6 hrs literature survey	6	Complete 6 hours of literature survey with a passing grade. Choose from the following courses: <a href="#">Eng 220</a> , <a href="#">221</a> , <a href="#">222</a> , <a href="#">223</a> , <a href="#">224</a> , <a href="#">225</a> , or <a href="#">Eng 226</a> .
6 hrs modern/ancient language 200+	6	Successfully complete at least 6 hours at the 200 level or above in one modern or ancient language.
6 hrs social science	6	Successfully complete 6 semester hours in anthropology, economics, political science, psychology, or sociology.
6 hrs social science/humanities	6	Complete 6 hours of additional social science or humanities coursework. The courses may be chosen from African American studies, anthropology, classical civilization, economics, gender studies, history, <a href="#">Liba 202</a> , philosophy, political science, psychology, religious studies, <a href="#">Rhet 201</a> , sociology, and Southern studies.
6 hrs science	6	Successfully complete 2 courses of laboratory science.
2 science labs	8	Successfully complete at least two science laboratory courses.

#### General Education II



REQUIREMENT	HOURS	DESCRIPTION
Related subjects residence	6	Students must complete at least 6 of the required 18 hours of related subject course work in residence.
Related subjects residence GPA		Student must achieve a GPA of 2.00 in resident hours in related subjects.
Related subjects	18	Complete at least 18 credit hours in mathematics (Math) course work.
Related subject GPA		Student must achieve a GPA of 2.00 overall in the related subjects.

### Major Requirements

REQUIREMENT	HOURS	DESCRIPTION
<a href="#">Phys 211</a>	3	Complete <a href="#">Phys 211</a> with a passing grade.
<a href="#">Phys 212</a>	3	Complete <a href="#">Phys 212</a> with a passing grade.
<a href="#">Phys 221</a>	1	Complete <a href="#">Phys 221</a> with a passing grade.
<a href="#">Phys 222</a>	1	Complete <a href="#">Phys 222</a> with a passing grade.
<a href="#">Phys 303</a>	3	Complete <a href="#">Phys 303</a> with a passing grade.
<a href="#">Phys 308</a>	3	Complete <a href="#">Phys 308</a> with a passing grade.
<a href="#">Phys 309</a>	3	Complete <a href="#">Phys 309</a> with a passing grade.
<a href="#">Phys 310</a>	3	Complete <a href="#">Phys 310</a> with a passing grade.
<a href="#">Phys 317</a>	3	Complete <a href="#">Phys 317</a> with a passing grade.
<a href="#">Phys 319</a>	4	Complete <a href="#">Phys 319</a> with a passing grade.
<a href="#">Phys 401</a>	3	Complete <a href="#">Phys 401</a> with a passing grade.
<a href="#">Phys 402</a>	3	Complete <a href="#">Phys 402</a> with a passing grade.
<a href="#">Phys 417</a>	4	Complete <a href="#">Phys 417</a> with a passing grade.
<a href="#">Phys 451</a>	3	Complete <a href="#">Phys 451</a> with a passing grade.
2 hrs <a href="#">Phys 463</a> and/or 464	2	Complete at least 2 hours of <a href="#">Phys 463</a> and/or 464.
Physics lab 300+	3	Successfully complete an additional upper-division physics laboratory course.
Phys residency hrs	18	Students must earn at least 18 hours of their major courses in residence.
Resident Major GPA		Please contact your academic advisor for grade point requirements.
Overall Major GPA		Please contact your academic advisor for grade point requirements.

### Major Requirements II

REQUIREMENT	HOURS	DESCRIPTION
<a href="#">Math 261</a>	3	Complete <a href="#">Math 261</a> with a passing grade.
<a href="#">Math 262</a>	3	Complete <a href="#">Math 262</a> with a passing grade.
<a href="#">Math 263</a>	3	Complete <a href="#">Math 263</a> with a passing grade.
<a href="#">Math 264</a>	3	Complete <a href="#">Math 264</a> with a passing grade.
<a href="#">Math 319</a>	3	Complete <a href="#">Math 319</a> with a passing grade.
<a href="#">Math 353</a>	3	Complete <a href="#">Math 353</a> with a passing grade.

### Emphasis - Astrophysics

REQUIREMENT	HOURS	DESCRIPTION
<a href="#">Astr 325</a>	3	Complete <a href="#">Astr 325</a> with a passing grade.
<a href="#">Astr 436</a>	3	Complete <a href="#">Astr 436</a> with a passing grade.

