PHYSICS (BS)

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

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

Code	Title	Hours
Select one of the following First Year Writing I courses:		3
WRIT 1000	Introduction to College Writing	
or WRIT 1010	First-Year Writing I	
Select one of the following First Year Writing II courses:		3
WRIT 1020	First-Year Writing II	
or LIBA 1020	First Year Seminar	
Select six hours of literature survey from the following:		6
ENGL 2220	Survey in Literary History	
ENGL 2221	Survey of World Literature to 1650	
ENGL 2222	Survey of World Literature since 1650	
ENGL 2223	Survey of American Lit to the Civil War	
ENGL 2224	Survey of American Lit since Civil War	
ENGL 2225	Survey of British Lit to 18th Century	
ENGL 2226	Survey of Brit Lit since Romantic Period	
Select twelve hours of social science and humanities in the following areas: [1]		12
African American Studies		
American Sign Language		
Classical Civilization		
ENVS 1010	Humanities and the Environment	
Gender Studies		
Greek		
History		
LIBA 2020	Interdisciplinary Humanities	
LIBA 2030	Interdisciplinary Social Sciences	
LIBA 3050	Humanities and the Experience of War	
LIBA 3120	Advanced Interdisciplinary Humanities	
LIBA 3130	Advanced Interdisc Social Science	
Philosophy		
Political Science		
Psychology		
Religious Studies		
Any Speech, Rhetoric, or Writing course at the 2000 level or higher		
Sociology		
Southern Studies		
Any of the languages offered by the Department of Modern Languages		
Select three hours of of fine arts from the following:		3
Art History		
DANC 2000	Dance Appreciation	
MUSC 1010	Introduction to Music Literature	
MUSC 1020	Fundamentals of Music Theory	
MUSC 1030	Introduction to Music	
MUSC 1040	Introduction to World Music Cultures	
MUSC 1050	Music Theory and Analysis I	
THEA 2010	Appreciation of the Theatre	
THEA 2020	Introduction to Cinema	
LIBA 1300	Introduction to the Fine Arts	
LIBA 2040	Interdisciplinary Arts	
LIBA 3140	Advanced Interdisciplinary Arts	
Select 6-8 hours of natural science [2]		6-8
any Math course at the 1000 level or above [3]		3
Related Subjects - see footnote [4]		18
Total Hours		**54-56**

1. At least six hours must be chosen from among the social sciences, which consist of anthropology, economics, political science, psychology, and sociology.
2. Majors for the B.S. degree must have 2 courses of laboratory science.
3. Any MATH course at the 1000 level or above except for MATH 2451 and 2452
4. 18 hours required; choose from courses listed beside the major.
   Anthropology - biology, computer science, English, economics, chemistry, geology, history, mathematics, philosophy, political science, psychology, sociology
   Biology - anthropology, chemistry, CLSC 2010 Medical Terminology in Greek and Latin, geology, mathematics, physics, psychology
   Chemistry - mathematics, physics
   Economics - math (may include MATH 2611 Unified Calculus & Analytic Geometry I, MATH 2612 Unified Calculus & Analytic Geometry II, and MATH 3750 Introduction to Statistics I, but not MATH 2511 Calculus for Business, Econ., & Accy. I, MATH 2512 Calculus for Business, Econ., & Accy. II), finance, political science, computer science
   Forensic Chemistry - biology, mathematics, pharmacology, physics; up to 6 hours of pharmacology courses
   Mathematics - astronomy, biology, chemistry, computer science, economics, geology, physics
   Physics - mathematics
   Political Science - computer science, economics, mathematics, sociology, psychology

Psychology - biology, computer science, economics, mathematics, philosophy, sociology
Sociology - anthropology, computer science, English, economics, history, mathematics, philosophy, political science, psychology

General Education II

Related Subjects Residence

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

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

Code	Title	Hours
Students may satisfy the PHYS 21xx requirements by demonstrating a high level of proficiency on an exam—but then will need to meet the 45 total hours by taking higher-level physics and astronomy courses as a substitute.		
PHYS 2110	Physics for Science & Engineering I	3
PHYS 2111	Lab Physics for Science & Engineering I	1
PHYS 2120	Physics for Science & Engineering II	3
PHYS 2121	Lab Physics for Science & Engineering II	1
PHYS 3030	Physical Theory and Techniques	3
PHYS 3080	Mathematical Physics	3
PHYS 3210	Mechanics	3
PHYS 3232	Optics	4
PHYS 3270	Thermodynamics	3
PHYS 3310	Introduction to Modern Physics I	3
PHYS 4312	Modern Physics Laboratory	4
PHYS 4330	Introduction to Quantum Mechanics	3
PHYS 4350	Electromagnetic Theory I	3
PHYS 4360	Electromagnetic Theory II	3
Select two hours of the following:		2
PHYS 4137	Senior Research Project	
PHYS 4147	Senior Research Project	
Select an additional three hours of PHYS or ASTR at the 3000+ level		3
Total Hours		**45**

Phys Residency Hours

Students must earn at least 18 hours of their major courses in residence.

Resident Major GPA

Students must maintain a GPA of 2.0 or higher on major required courses.

Overall Major GPA

Students must maintain a GPA of 2.0 or higher on major required courses.

Major Requirements II

All six math courses should be completed by the end of the junior year.

Code	Title	Hours
MATH 2611	Unified Calculus & Analytic Geometry I	3
MATH 2612	Unified Calculus & Analytic Geometry II	3
MATH 2613	Unified Calculus & Analytic Geometry III	3
MATH 2614	Unified Calculus & Analytic Geometry IV	3
MATH 3190	Introduction to Linear Algebra	3
MATH 3530	Elementary Differential Equations	3
Total Hours		**18**

Specializations

Emphasis - Astrophysics

Code	Title	Hours
ASTR 3610	Astrophysics	3
ASTR 4760	Introduction to Cosmology	3
Total Hours		**6**

Emphasis - Biophysics

Code	Title	Hours
PHYS 4410	Introduction to Biophysics	3
PHYS 5440	Physics of Medical Imaging	3
Total Hours		**6**