

# PHYSICS (BS) - GENERAL PHYSICS

## Degree Requirements

Code	Title	Hours
<b>General Education Requirements</b>		
<a href="https://bulletin.southalabama.edu/programs-az/arts-sciences/#generaleducationtext">https://bulletin.southalabama.edu/programs-az/arts-sciences/#generaleducationtext</a>		56-60
<b>Major Requirements</b>		<b>43</b>
<i>Physics (BS) - General Physics Core</i>		
A. Complete the following:		
PH 107	Contemporary Topics in Physics	1
PH 201	Calculus-Based Physics I	4
PH 202	Calculus-Based Physics II	4
PH 303	Modern Physics	4
PH 348	Electricity and Magnetism I	3
PH 354	Electronics	3
PH 366	Physical Mechanics I	3
PH 385	Experimental Physics - W	3
PH 411	Computational Methods in Phys	3
PH 448	Elementary Quantum Mechanics I	3
PH 463	Thermodynamics-Stat Mechanics	3
B. Select three of the following Physics electives:		9
PH 301	Introductory Astrophysics	
PH 311	Condensed Matter Physics	
PH 346	Classical and Modern Optics	
PH 349	Electricity and Magnetism II	
PH 367	Physical Mechanics II	
PH 390	Special Topics -	
PH 449	Elementary Quantum Mechanic II	
PH 494	Directed Studies -	
PH 499	Senior Thesis-Honors - H	
C. Complete the following Technical/Pre-requisite courses:		26
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	
CH 132 & 132L	General Chemistry II and General Chemistry II Lab	
MA 125	Calculus I (Prerequisite to upper division Physics courses)	
MA 126	Calculus II (Prerequisite to upper division Physics courses)	
MA 227	Calculus III (Prerequisite to upper division Physics courses)	
MA 238	Differential Equations I (Prerequisite to upper division Physics courses)	
CPE 260	Intro to C++ Programming	
<b>Minor Requirements</b>		
A minor is required for this degree program		18-24
<b>A MINIMUM OF 120 HOURS IS REQUIRED FOR A DEGREE</b>		<b>120</b>

All undergraduates must complete two designated writing credit (W) courses, at least one must be in major or minor.

### Notes:

With the exception of PH 303 and PH 448, which are offered every year, all upper division Physics courses are offered every other year.

All Physics majors will be required to take an assessment exit exam, at no cost to the student, and an exit interview before graduation as directed by the department.

### General Comments:

- PH 114 and PH 115 with either PH 201 or PH 202 may be substituted for PH 201 and PH 202 with the prior approval of the physics department chair.
- The sequences PH 114/PH 115 and PH 201/PH 202 may not both be taken for credit.

## Graduation Plan

(120 Total Hours)

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
CAS 100	First Yr Exp -	2
PH 107	Contemporary Topics in Physics	1
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	4
MA 125	Calculus I	4
EH 101	English Composition I	3
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
EH 102	English Composition II	3
PH 201 & 201L	Calculus-Based Physics I and Calculus-Based Physics I Lab	4
CH 132 & 132L	General Chemistry II and General Chemistry II Lab	4
MA 126	Calculus II	4
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall</b>		
History	Area IV, A <sup>1</sup>	3
MA 227	Calculus III	4
PH 202 & 202L	Calculus-Based Physics II and Calculus-Based Physics II Lab	4
CPE 260	Intro to C++ Programming	3
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
English Literature	Area II, B <sup>1</sup>	3
Fine Arts	Area II, C <sup>1</sup>	3
CA 110	Public Speaking	3
PH 303 & 303L	Modern Physics and Modern Physics Lab	4
MA 238	Differential Equations I	3
<b>Hours</b>		<b>16</b>
<b>Third Year</b>		
<b>Fall</b>		
Social/Behavioral Science	Area IV <sup>1</sup>	3
Humanities/Fine Arts	Area II <sup>1</sup>	3
PH 354	Electronics	3
PH 366	Physical Mechanics I	3
PH 385	Experimental Physics - W	3
<b>Hours</b>		<b>15</b>

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### Spring

Humanities/Fine Arts	Area II <sup>1</sup>	3
Social/Behavioral Science	Area IV <sup>1</sup>	3
PH 411	Computational Methods in Phys	3
Select two of the following	Physics Electives:	6
PH 301	Introductory Astrophysics	
PH 311	Condensed Matter Physics	
PH 346	Classical and Modern Optics	
PH 349	Electricity and Magnetism II	
PH 367	Physical Mechanics II	
PH 390	Special Topics -	
PH 449	Elementary Quantum Mechanics II	
PH 494	Directed Studies -	
PH 499	Senior Thesis-Honors - H	
<b>Hours</b>		<b>15</b>

### Fourth Year

#### Fall

Foreign Language	Area V, A <sup>1</sup>	3
Elective		3
PH 348	Electricity and Magnetism I	3
PH 448	Elementary Quantum Mechanics I	3
Select one of the following	Physics Electives:	3
PH 301	Introductory Astrophysics	
PH 311	Condensed Matter Physics	
PH 346	Classical and Modern Optics	
PH 367	Physical Mechanics II	
PH 390	Special Topics -	
PH 449	Elementary Quantum Mechanics II	
PH 349	Electricity and Magnetism II	
PH 494	Directed Studies -	
PH 499	Senior Thesis-Honors - H	
<b>Hours</b>		<b>15</b>

#### Spring

Foreign Language	Area V, A <sup>1</sup>	3
HY/Social/Behavioral	Area IV <sup>1</sup>	3
Elective		3
Elective		4
PH 463	Thermodynamics-Stat Mechanics	3
<b>Hours</b>		<b>16</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> See General Education Requirements