

**Major Requirements for a B.S in Applied Physics  
with a concentration in  
Materials Science**

Requirements listed are those in the 2018-2019 catalog. The required courses for the major should be taken for a letter grade. All courses are required unless otherwise indicated.

**Preparatory Subject Matter**

Course	No	Units	Qtr	Grade	GP
PHY	9A	5	F,S		
	9B	5	F,W		
	9C	5	W,S		
	9D	4	F,S		
	<b>or</b>				
PHY	9HA	5	F		
	9HB	5	W		
	9HC	5	S		
	9HD	5	F		
	9HE	5	W		
	<b>and</b>				
MAT	21A	4	F,W,S		
	21B	4	F,W,S		
	21C	4	F,W,S		
	21D	4	F,W,S		
	22A	3	F,W,S		
	22B	3	F,W,S		
PHY	40	4	S		
ENG	45*	4	F,W,S		
PHY	185*	1	S		
	190*	1	F		

**Core Subject Matter**

Course	No	Units	Qtr	Grade	GP
PHY	104A	4	F		
	105A	4	F		
	110A	4	W		
	110B	4	S		
	112	4	F		
	115A	4	S		
	116A	4	F		
	116B	4	W		
PHY	102	1	F		
	<b>or</b>				
	104B	4	W		

*PHY 80 will be a pre-requisite for PHY 122A/B starting W2020*

*# Course not offered every year*

*\*Recommended Course*

**Laboratory Requirement**

Choose one

Course	No	Units	Qtr	Grade	GP
PHY	122A/B	4	W		
	<b>or</b>				
	116C	4	S		

**Concentration Courses**

Course	No	Units	Qtr	Grade	GP
PHY	115B	4	F		
	140A	4	W		
	140B	4	S		
EMS	174	4	S		
	180	4	S		

**Additional Recommended Courses**

Courses recommended but not required.

Course	No	Units	Qtr	Grade	GP
PHY	105C*	4	S#		
	110C*	4	F		
	116C*	4	S		
EMS	162*	4	W#		
	164*	4	S#		
	147*	3	W		

**Major GPA**

<b>Overall</b>	<input type="text"/>
<b>Upper Div</b>	<input type="text"/>

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### Suggested Schedule

The core major courses as well as the minimum requirement concentration courses are underlined below. Recommended courses are in italics.

	<b>Fall</b>	<b>Winter</b>	<b>Spring</b>
<b>Junior</b>	<u>PHY102 (1)</u> <u>PHY104A (4)</u> <u>PHY105A (4)</u> <u>PHY116A (4)*</u>	<u>PHY105B (4)</u> <u>PHY110A (4)</u> <u>PHY116B (4)</u> <i>EMS 162 (4)</i>	<u>PHY110B (4)</u> <u>PHY115A (4)</u> <i>PHY116C (4)</i>
<b>Senior</b>	<u>PHY112 (4)</u> <u>PHY115B (4)</u> <u>EMS 174 (4)</u> <i>PHY110C (4)</i>	<u>PHY122 (4)</u> <u>PHY140A (4)</u> <i>EMS147 (4)</i>	<u>PHY140B (4)</u> <u>EMS180 (4)</u> <i>PHY105C (4)</i> <i>EMS 164(4)</i>

Core, Concentration and Addtl. Electives Total \_\_\_\_\_

+ Also offered other quarters.

61 Total Units

\* *Physics 116A is recommended for Sophomore year students in the 9H series.*

Course Substitution/ Waiver requests should be submitted well in advance, preferably prior to enrollment in the course.

1. Student must first speak with a faculty advisor.
2. Faculty advisor submits course substitution/waiver request to the Undergraduate Curriculum Committee for approval.

Advisor please Initial & date substitution/waiver requests and submit to the Chair of the Undergraduate Curriculum Committee.

Approval: \_\_\_\_\_ (Required for delcaration of major &  
Physics Advisor Date any subsequent substitutions)

Approval: \_\_\_\_\_ (Required only if there are  
Departmental Approval Date substitutions.)

Applied Physics Advisor For  
Materials Science Concentration: X. Zhu (zhu@physics.ucdavis.edu)