

APPLIED PHYSICS MAJOR (PHYSA.BS)

<u>Required Courses</u>	<u>Hrs.</u>	<u>Prereq.</u>	<u>Rec.Yr.</u>
PHYS 151L General Physics I Lab	1	Coreq: PHYS 161	Fr
PHYS 152L General Physics II Lab	1	Coreq PHYS 162	Fr
PHYS 161 General Physics I w/Calculus	3	Pre or coreq MATH 161	Fr
PHYS 162 General Physics II w/Calculus	3	Pre or coreq MATH 161	Fr
PHYS 210 Light & Atomic Physics	3	MATH 161, PHYS 152 or 162; Coreq PHYS 211L	Soph
PHYS 211L Light & Atomic Physics Lab	1	Coreq PHYS 210	Soph
PHYS 220 Nuclear Physics	3	PHYS 210; Coreq PHYS 221L	Soph
PHYS 221L Nuclear Physics Lab	1	Coreq PHYS 220	Soph
PHYS 305L Electro-Optics Lab	1	PHYS 210	Jr
PHYS 309 Engineering Mechanics	3	MATH 161, PHYS 152 or 162	Jr
PHYS 310 Analytical Mechanics	3	MATH 162, PHYS 151 or 161, PHYS 152 or 162	Jr
PHYS 311 Mechanics of Materials	3	MATH 162, PHYS 151 or 161, PHYS 152 or 162	Jr
PHYS 340 Engineering Thermodynamics	3	MATH 161, PHYS 151 or 161	Jr
PHYS 342 Quantum Mechanics	3	PHYS 151 or 161, PHYS 152 or 162, MATH 162	Jr
PHYS 345L Engineering Measure Lab	1	Pre PHYS 162, 340	Jr
PHYS 360 Electromagnetic Theory	3	PHYS 151 or 161, 152 or 162; Pre or coreq MATH 230	Jr
PHYS 401 Final Year Portfolio Showcase	1	Coreq PHYS 498	Sr
^PHYS 497 Research Seminar I	1	Physics Major	Sr
^PHYS 498 Research Seminar II	1	PHYS 497; Coreq PHYS 401	Sr
<u>Take two of the following PHYS courses w/lab</u>			
PHYS 250 Electronics	3	PHYS 152 or 162, MATH 161 Coreq PHYS 251L	Soph
PHYS 251L Electronics Lab	1	Coreq PHYS 250	Soph
PHYS 260 Digital Electronics	3	PHYS 152 or 162; Coreq PHYS 261L	Soph
PHYS 261L Digital Electronics Lab	1	Coreq PHYS 260	Soph
PHYS 320 Materials Science	3	PHYS 152 or 162, MATH 161; Coreq PHYS 321L	Jr
PHYS 321L Materials Science Lab	1	Coreq PHYS 320	Jr
PHYS 330 Solid State Physics	3	PHYS 152 or 162, MATH 162; Coreq PHYS 331L	Jr
PHYS 331L Solid State Physics Lab	1	Coreq PHYS 330	Jr
CHEM 161 Acc Gen Chem for Science Maj	3	HS Chemistry and proficiency or CHEM 105, 107L; Coreq CHEM 163L	Fr
CHEM 163L Acc Gen Chem for Sci Maj Lab	1	Coreq CHEM 161	Fr
CHEM 131 Gen Chemistry for Sci Majors I	3	*Coreq CHEM 133L	Fr
<i>*Prerequisite: Must have passed at least one year of high school chemistry or one semester of college chemistry equivalent to CHEM 105/107L or above AND at least one of the following: MATH ACT score of 20, MATH SAT score of 500, grade of C or better in one of the classes: MATH 103, 110, 112, 115, 130, 161.</i>			
CHEM 133L Gen Chemistry for Sci Maj I Lab	1	Coreq CHEM 131	Fr
CHEM 132 Gen Chemistry for Sci Majors II	3	C- or better in CHEM-131/133L; Coreq CHEM 134L	Fr
CHEM 134L Gen Chemistry for Sci Maj II Lab	1	Coreq CHEM 132	Fr
CSCI 230 Scientific Programming	3	PHYS 152 or 162	Soph
MATH 161 Calculus I	4	C or better in MATH 130 or equiv. or placement	Fr
MATH 162 Calculus II	4	C (2.0) or better in MATH 161	Fr
MATH 223 Calculus III	4	C (2.0) or better in MATH 162	Soph
MATH 230 Differential Equations	4	C (2.0) or better in MATH 162	Soph
MATH 311 Applied Linear Algebra	3	MATH 223	Jr

73-77 total hours

^Satisfies advanced writing requirement

NAME: _____

B.S. Degree: Applied Physics Major (for students entering in Fall 2026/Spring 2027)

In the "WHAT" column, enter the specific course number when applicable--e.g. HIST 121. In the "WHEN" column, enter the term and year in which the requirement is satisfied--e.g., sp '20.

Liberal Arts Core	
WHAT	WHEN
_____	ENGL 101* w/ C (2.0) [3 hrs]
_____	ENGL 110 w/ C (2.0)* [3 hrs]
_____	COMM 211 w/ C (2.0) [3 hrs]
_____	Dept senior seminar/writing course
Met by: _____	PHYS 497 [1 hr]
AND _____	PHYS 498 [1 hr]
_____	FYEX 101 [3 hrs]
_____	FYEX 102 [1 hr]
_____	FYEX 103/104/105/106/107 [1 hr]
_____	FYEX 103/104/105/106/107 [1 hr]
_____	Foundational Scientific Inquiry [3-4 hrs]
_____	Foundational Quantitative Analysis [3-4 hrs]
_____	Foundational Humanities & Liberal Arts [3 hrs]

No more than two lens courses may come from same departmental prefix and one lens must be taken at 300 level or above.

_____	Ethical/Spiritual Explor Lens (ETSP) [3 hrs]
_____	Aesthetic Expression Lens (AEXP) [3 hrs]
_____	Per & Soc Well Being Lens (PSWB) [3 hrs]
_____	Cultural Perspectives Lens (CEXP) [3 hrs]
_____	Experimental Inquiry Lens (EXIN) [3 hrs]

39 - 41 Total semester hours

_____ 120 semester hours required for graduation

*Enter NA (not applicable) if waived upon admission

➤Applied Physics majors may count up to 57 hours in Physics toward graduation. Three hours over the limit may count to accommodate an internship in the discipline.

For students classified as transfers, FYEX course requirements are dependent upon total transferrable credit hours.

Applied Physics Major	
WHAT	WHEN
_____	PHYS 151L [1 hr]
_____	PHYS 152L [1 hr]
_____	PHYS 161 [3 hrs]
_____	PHYS 162 [3 hrs]
_____	PHYS 210 [3 hrs]
_____	PHYS 211L [1 hr]
_____	PHYS 220 [3 hrs]
_____	PHYS 221L [1 hr]
_____	PHYS 305L [1 hr]
_____	PHYS 309 [3 hrs]
_____	PHYS 310 [3 hrs]
_____	PHYS 311 [3 hrs]
_____	PHYS 340 [3 hrs]
_____	PHYS 342 [3 hrs]
_____	PHYS 345L [1 hr]
_____	PHYS 360 [3 hrs]
_____	PHYS 401 [1 hr]
_____	PHYS 497 [1 hr]
_____	PHYS 498 [1 hr]

Take two of the following PHYS options w/lab:

_____	PHYS 250 [3 hrs]+
_____	PHYS 251L [1 hr]

_____	PHYS 260 [3 hrs]+
_____	PHYS 261L [1 hr]

_____	PHYS 320 [3 hrs]+
_____	PHYS 321L [1 hr]

_____	PHYS 330 [3 hrs]+
_____	PHYS 331L [1 hr]

_____	CHEM 161 [3 hrs]
_____	CHEM 163L [1 hr]

OR

_____	CHEM 131/133L [4 hrs] +
_____	CHEM 132/134L [4 hrs]

_____	CSCI 230 [3 hrs]
_____	MATH 161 [4 hrs]
_____	MATH 162 [4 hrs]
_____	MATH 223 [4 hrs]
_____	MATH 230 [4 hrs]
_____	MATH 311 [3 hrs]

_____ 73-77 semester hours

➤ Only six hours of any minor may overlap with the required credit hours of a student's chosen major. The overlap constraint is not applicable to courses that majors or minors MUST take in other departments.